Minnesota Medicine

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Minnesota Medicine

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

Volume 31 December, 1948 No. 12

Symposium on Antibiotics

Minnesota State Medical Association

Tuesday, June 8, 1948

INTRODUCTION TO SYMPOSIUM

WESLEY W. SPINK, M.D.
Minneapolis, Minnesota

FROM time to time at the annual meetings of the Minnesota State Medical Association, the status of specific therapy in infectious diseases has been reviewed. For this and other reasons, it is appropriate that the present position of the antibiotics in clinical medicine should be reviewed. We are indeed fortunate in the three men who have agreed to participate in this symposium. The first speaker, Dr. Sam Boyer, Jr., of Duluth, is well qualified to discuss the "Present Trends in Penicillin Therapy." The second speaker, Dr. Karl H. Pfuetze, has co-operated with the group from the Mayo Clinic in pioneer studies on the effect of streptomycin on the clinical course of tuberculosis. His subject is "Streptomycin in Tuberculosis." Dr. Wallace Herrell, the third speaker, has been identified for many years with the progress of antibiotic therapy in infectious diseases, and is the author of a monograph on penicillin. His subject is "Streptomycin and Newer Antibiotics in the Treatment of Infections Other Than Tuberculosis."

PRESENT TRENDS IN PENICILLIN THERAPY

SAM BOYER, JR., M.D.
Duluth, Minnesota

PRESENT trends in penicillin therapy may be roughly divided into four groups: (1) the promiscuous use of penicillin; (2) inadequate bacteriological study prior to the administration of penicillin; (3) penicillin reactions; and (4) methods and preparations to give prolonged activity of penicillin.

Penicillin is today one of the most widely used drugs. Questioning at the pharmacies of hospitals indicates that it is easily one of the five most commonly prescribed drugs if not the most. The relative innocuousness of the preparation, its definite value in many conditions, and confidence in its effect, on the part of profession and laity alike, have led to this frequent use. Actually, in many cases it is prescribed as freely as our most common analgesics or antipyretics. In a home practice one finds it is given at the first sign of infection and often before a diagnosis may be made. One of my older colleagues, an epidemiologist, recently remarked to me: "Years ago we used to say a patient had a touch of pneumonia,

Read as part of a Symposium on Antibiotics before the annual meeting of the Minnesota State Medical Association, Minneapolis, Minnesota, June 8, 1948.

give them drug X only to have a case of smallpox develop. Now we say they have a sinus infection, give them penicillin and a few days later have a case of measles."

TABLE I.

Patients Receiving Penicillin	143
Crystalline Penicillin	41
Procaine Penicillin	88
Combined Crystalline and Procaine	14

A review of the patients receiving penicillin covering approximately a three-week period at St. Luke's hospital in Duluth show that in this hospital with an average daily census of 295 patients, 143 received penicillin for one reason or another. It is of interest that about twice as many received procaine penicillin in oil as received crystalline penicillin (Table I). The patients could be divided into the following groups (Table II) with the corresponding number receiving the drug: medical 26, infectious diseases 10, dermatology 4, tuberculosis 2, surgery 24, genitourinary 7, orthopedic 12, gynecologic 12, eye, ear, nose and throat 6, obstetric 26, and unclassified 14. It is of interest that among these 143 patients the diagnoses ran almost the entire gamut of diseases prevalent in this part of the country. The great majority of obstetrical and surgical patients received penicillin prophylactically. The same can be said of the orthopedic and genitourinary cases. In obstetrical and gynecological surgery it was apparently used at times for urinary infections and in surgical cases for fever appearing postoperatively. I do not believe we are in a position to question its use prophylactically, but one might indeed raise the question of whether its use as such is making us more dependent on a valuable drug and less so on our technique. In medicine there again appears to have been rather haphazard use. Here one found it used in two patients with tuberculosis, three with rheumatic fever, in patients with nephrosis, asthmatic bronchitis, and upper respiratory infections. Actually this antibiotic is frequently used when some of our common antipyretics could be just as judiciously and less expensively used and is more often used without a definite diagnosis than with one.

The promiscuous use of penicillin is definitely bound to inadequate bacteriological study. Again in the 143 patients receiving penicillin in this approximate three-week period seven had blood cultures, two had spinal fluid cultures, eight had nose and throat cultures and two had urinary cultures (Table III). It is my belief that where bacteriological studies may be done prior to the administration of such a valuable drug, this

TABLE II.

Medicine	26	
Infectious Diseases	10	
Dermatology	4	
Tuberculosis	2	
Total		42
Surgery	24	
Genitourinary	7	
Gynecology	12	
Orthopedic	12	
Total		55
Obstetrics	26	
Ear, Nose and Throat	6	
Unclassified	14	
Total		143

TABLE III. BACTERIOLOGICAL STUDY

Blood Culture	7
Spinal Fluid Culture	2
Nose and Throat Culture	8
Urine Culture	2

should first be done. It is unusual that a delay of a day or two may do harm. It is, of course, true that in fulminating diseases, like meningitis, immediate use of chemotherapy or antibiotic therapy is of prime importance. However even in these instances blood culture and spinal fluid cultures can easily be first obtained. The establishment of a definite bacteriological diagnosis will give some idea as to whether the drug is indicated, the size of the dosage and how long it should be continued. In country practice, of course, it is recognized that bacteriological study is often a near impossibility. However, some of my friends in active country practice have made full use of the facilities of the State Board of Health in order to obtain such information. I presume one might formulate the dictum: use penicillin wisely and judiciously, and if humanly possible try to get adequate bacteriological study first.

Directly related again to the frequent and promiscuous use of the drug is the popular conception that this antibiotic agent is entirely harmless. It is perfectly true that toxicity and the incidence of reactions is low. However, we have lost sight of two facts: (1) serious and sometimes alarming reactions may occur; and (2) by indiscriminate and frequent use of the antibiotic, the value of the drug in the future if needed for some virulent and life-threatening infection may have become lessened or prohibited. The literature is rife with reports on penicillin reactions. Lyons[17] indicated that chills with or without fever oc-

curred with intravenous injections and, of course, noted the occurrences of thrombophlebitis after intravenous administration. In addition he noted burning pain at the site of injection, headache, faintness, tingling in the testes, muscle cramps and urticaria. The latter occurred in 5.7 per cent of the cases. It was thought that these reactions were due to impurities in the preparations. Eilert[7] classified reactions as (a) toxic dermatitis occurring in patients who had never received penicillin before, and appearing about the tenth day; (b) exfoliative dermatitis and (c) a serum sickness type of reaction manifested by fever, urticaria and polyarthritis or arthralgia. She indicated that the latter type of reaction might occur as late as nine days after penicillin had been discontinued. Peck[20] classified reactions into four groups: (a) those similar to serum sickness and closely allied to which are toxic erythema and severe local reactions following the use of oily preparations; (b) allergic contact dermatitis following local applications; (c) erythematovesicular eruptions usually occurring at the site of previous fungus infections and (d) febrile reactions following the use of aerosols or bronchial instillations.

Strazza,[21] Eisenstadt,[8] Keefer,[15] Hailey,[12] and Hinman[14] all report instances simulating serum sickness. The latter also notes ecchymoses, gastrointestinal symptoms and central nervous system complaints. Binckley and Brockmole[2] report one case of contact sensitivity, and Barker[1] adds a case of dermatitis venenata. Farrington[10] reports cases with definite cutaneous sensitivity and indicates a definite allergic reaction. Criep[5] has, in addition to reporting a case with an urticarial reaction, definitely shown that skin tests, passive transfer tests and precipitin tests may all be positive. Graves[11] et al report immediate reactions to penicillin with the development of a vesicular rash in people who had previous fungus infections and raise the question of (a) fungus antigen relationship; (b) release of toxins by bacterial action; or (c) sensitivity. Bullous dermatitis[19] and also stomatitis[10,16] have been reported. The development of the latter after oral ingestion of penicillin is a very important detail. The sore mouth is very distressing to the patient and the danger is presented of increasing the dose of penicillin and aggravating the condition rather than correcting the lesion by discontinuing the medication.

A discussion of the reactions to penicillin cannot be concluded without reference to the dangers and complications of intrathecal administration which include[22] radiculitis and myelopathy associated with chronic meningeal thickening. Erickson et al[9] cite the following factors in the production of toxic manifestations following intrathecal injection: (a) concentration of penicillin solution; (b) slow diffusion of spinal fluid; (c) size of individual dose; (d) frequency of injection; and (e) duration of intraspinal therapy. Finally, as Morginson[18] has pointed out, there are in addition to the direct toxic reactions and antigen reactions also the therapeutic shock or Jarisch-Herxheimer reaction and the indirect reaction on pathological processes. An attempt has been made to combine the classifications of Eilert, Peck and Morginson in Table IV. It is thus seen that the frequent and injudicious use of penicillin may result in reactions which are deleterious to the patient and which may possibly sensitize them so as to make the future use of penicillin almost an impossibility.

TABLE IV. CLASSIFICATION OF REACTION

1. Direct Toxic Reaction
   A. Febrile
2. Antigen Reaction
   A. Similar to serum sickness
   B. Contact dermatitis
   C. Erythematovesicular eruptions
   D. Exfoliative dermatitis
3. Therapeutic Shock
4. Indirect Action on Pathologic Process

It is a far cry from the first dose of penicillin any of us gave or ordered given to the present-day widespread administration. Attempts have been constantly made to refine the drug and to prolong its action. Crossone et al[6] cite the following methods to obtain a concentration above .030 units per c.c., which is generally considered an adequate level: (a) increasing the dosage and administering the drug more frequently; (b) varying the route of administration (constant intravenous or intramuscular drip); (c) slowing absorption by cooling the site of administration or by the administration of penicillin in oil or beeswax; (d) suppressing the excretion in renal tubules by use of various preparations.

Penicillin in beeswax and oil was the first preparation which gave an adequate prolonged blood level. However, pain on injection, the persistence of a subcutaneous or intramuscular mass, allergic reactions and the development of sterile abscesses have complicated its use. Procaine penicillin is the latest preparation, the administration

of which give adequate levels over a twelve- to twenty-four-hour period. The use of this salt in sesame oil has been shown by Herrel[13] and Boger et al[4] to yield blood levels considered adequate in the treatment of pneumonia for twenty-four hours. The advantages in this preparation lie in fewer injections, reduction in pain, reduced man-hours in large-scale administration of the drug in hospitals and ready availability of penicillin for home use. Still faced as a disadvantage, is the intramuscular injection of an oil. Recently advanced is procaine penicillin in aqueous solution. I understand that blood levels similar to those obtained with the oil preparation are obtained. It is entirely possible, although too early to say, that study on a large scale will prove the efficacy of this preparation and thus answer the problem of injecting an oil.

Various preparations have at times been used experimentally to inhibit the excretion of penicillin. Caronamide (carboxyphenylmethanesulfanilide) is the most recent and apparently most successful of these preparations. This drug inhibits the enzyme transport system of the renal tubular epithelium by which penicillin is excreted. Crossone[6] found that when 1.5 to 2 grams of caronamide were administered every four hours the blood penicillin level was elevated two to seven times. Boger[3] later demonstrated that a caronamide plasma concentration level of approximately 15 mg. per cent was necessary to inhibit the renal excretion of penicillin sufficiently to double the blood level of the latter. A dosage of 1.5 gms. every three hours may give this level in some persons, but on the average in the person with normally functioning kidneys a dosage of 3 grams every three hours or 4 grams every four hours is necessary to maintain this desired level. It is thought that the maximum efficiency of this drug is reached between the levels of 20 mgs. to 40 mgs. per cent. This preparation has not been used widely and has only recently, to my knowledge, been made available for general use in this part of the country. Its practical value yet remains to be seen. Its disadvantage lies primarily in the large number of tablets necessary.

In conclusion, penicillin is used promiscuously, widely, and frequently without indication. Bacteriological study and diagnosis are lacking more often than not. Reactions to penicillin, usually allergic, may occur. The development of procaine penicillin during recent months has been a far-reaching step in prolonging the activity of the drug. The inhibition of renal excretion may be of value in the prolongation of penicillin activity.

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MENTAL AND SOCIAL HEALTH

Malaria, smallpox, tuberculosis, venereal disease, diphtheria, many others, could all be got rid of—from the whole world, without any further knowledge or research, if we had mental health and social health in the people of the world, if enough people in enough places could think in factual terms and had good mental health. Nothing keeps the diseases alive except ignorance and shortsighted self-interest. Long-sightedness would get rid of those things quickly.—Brock Chisholm, M.D., *Mental Hygiene*, July, 1948.

STREPTOMYCIN IN TUBERCULOSIS

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IN PREVIOUS years, the evaluation of chemotherapeutic agents in tuberculosis was most difficult because of the unpredictable natural evolution of this disease. In 1940, Feldman, Hinshaw and Moses found that tuberculous processes in guinea pigs could be suppressed and apparently reversed by treatment with promin. Similar encouraging results were obtained subsequently by these and other investigators by the use of other sulfone compounds in experimental tuberculosis. In later clinical investigations the therapeutic value of the sulfones was suggested but, for a number of reasons, could not be proved. However, since the discovery of streptomycin[9] and the demonstration of the efficacy of this antibiotic against tuberculous infections,[5] sheer weight of evidence has placed the antibacterial treatment of tuberculosis on a firm basis.

Clinical Use

Tuberculous Meningitis.—The specific effect of streptomycin on tuberculous infections was immediately apparent in the ability of the drug to cause remission in tuberculous meningitis and in generalized miliary tuberculosis, conditions almost invariably fatal otherwise. In tuberculous meningitis life is frequently prolonged by the use of streptomycin, remission often is remarkable in degree and in a minority of cases the disease process may prove to be permanently arrested.

Since results are best when treatment is begun early in the course of the disease, the administration of streptomycin should be instituted on presumptive evidence of tuberculous meningitis, without waiting either for bacteriologic confirmation or for development of the classic syndrome. However, treatment should not be withheld if the patient is not seen until the disease is fully developed. One patient at the Mayo Clinic was stuporous and disoriented when treatment with streptomycin was begun, and little improvement was noted until after two months of intensive treatment; yet this patient eventually attained complete remission and remained well two years later.

In a large proportion of the patients whose life is prolonged by chemotherapy, arterial changes develop in the central nervous system, or spinal block or hydrocephalus may occur, owing to the organization of fibrinous exudate. In many cases death has been attributed to these causes. Methods being investigated for the prevention of such disasters include drainage by surgical procedures[10] and the intrathecal injection of heparin.[6]

Disseminated Tuberculosis.—The end results of streptomycin therapy in disseminated tuberculosis are suggested by a review of the first 100 patients treated by the Veterans Administration.[2] One year after the completion of treatment, twenty-four patients were alive, and in fifteen of these patients there was no evidence of active disease. In generalized miliary tuberculosis, the results of streptomycin therapy are almost uniformly good when the drug is administered early in the course of the disease and when meningitis does not develop. The desirability of early diagnosis, when the patient presents a minimum of symptoms, is obvious.

Other Extrapulmonary Tuberculosis.—In most other forms of extrapulmonary tuberculosis the prognosis has been altered or reversed since the advent of chemotherapy. It is now generally agreed that streptomycin is the treatment of choice in tuberculosis of the oropharynx, larynx and tracheobronchial tree; in all cutaneous sinuses and fistulas of tuberculous origin; in tuberculous enteritis and peritonitis, and in tuberculous otitis media. In all of these conditions the proportion of patients who are cured or show marked improvement tends to be in excess of 80 per cent and the proportion of relapses is usually less than 10 per cent.

In a number of other tuberculous conditions streptomycin has not proved to be uniformly effective but a trial of chemotherapy may be indi-

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Read as part of a Symposium on Antibiotics before the annual meeting of the Minnesota State Medical Association, Minneapolis, Minnesota, June 8, 1948.

cated if no other treatment is available or if the condition has proved refractory to other treatment. Acute tuberculous pericarditis, tuberculous empyema, lupus vulgaris, tuberculous lymphadenitis and, probably, ocular tuberculosis belong in this category.

In tuberculosis of bones and joints, streptomycin has been beneficial in more than half of the cases in which it was used.[1] Probably because the process of healing is slow in this condition, maximal improvement may not be manifest until some time after the completion of chemotherapy. Subsidence of local signs and symptoms may be complete and eventually there may be roentgenographic evidence of healing. In chronic disease, streptomycin is useful in conjunction with surgical treatment, especially when draining sinuses are present.

In genitourinary tuberculosis, streptomycin has brought about some degree of improvement, at least temporarily, in nearly all cases. Alleviation of symptoms is often marked and in approximately three fourths of all cases the urine becomes free of tubercle bacilli during chemotherapy. The bacteriologic conversion is too frequently not permanent and recurrent disease due to streptomycin-resistant bacilli may develop, especially in advanced destructive types of renal tuberculosis. Although there is seldom any change in renal abnormalities as shown by pyelography, lesions of the bladder tend to heal or to improve. Thus streptomycin has been a great boon to patients having bilateral renal tuberculosis, tuberculosis of a solitary kidney and other conditions not amenable to surgical treatment. Genital lesions, as a rule, are not healed by chemotherapy alone. However, in such lesions streptomycin is of value in bringing about the healing of sinuses and as an adjunct to surgical treatment.

Pulmonary Tuberculosis.—In pulmonary tuberculosis, the efficacy of streptomycin depends much more on the type of disease than on its extent. Exudative disease responds best to chemotherapy, proliferative lesions often show some degree of improvement but chronic fibrocaseous disease usually is not materially affected. Therefore, in any series of cases, the results of streptomycin therapy can be correlated closely with the predominant types of lesions. In order that streptomycin may be used to best advantage, careful selection of cases is necessary.

Indications for streptomycin therapy in pulmonary tuberculosis include all acute pneumonic processes, apparently exudative disease which has progressed or remained stationary after an adequate trial of other treatment, recently apparent pulmonary lesions due to hematogenic and bronchiogenic dissemination and tuberculous pleurisy with effusion which is accompanied by toxemia.

Streptomycin has increased the possibilities for collapse therapy and for other surgical treatment of pulmonary tuberculosis. When the disease is in an acute stage, pneumothorax can be initiated sooner and with greater safety when chemotherapy is administered than would be possible otherwise. When exudative lesions are brought under control by means of streptomycin therapy, thoracoplasty and pulmonary resection often become available to patients who were denied surgical treatment previously.

Especially in pulmonary tuberculosis, the permanence of improvement is not a valid test of the efficacy of a chemotherapeutic agent. Whether or not improvement is sustained depends on the patient's own defensive mechanism. If this is inadequate, there is danger of a relapse when chemotherapy is withdrawn or when it becomes ineffective because of the occurrence of bacterial resistance. It is reasonable to suppose that the patient who has demonstrated the need of antibacterial therapy in the first place is more prone to relapse than other patients of similar status regardless of the type of treatment employed. Therefore, it is the physician's responsibility to exercise judgment in the management of each patient, making secure the benefits of chemotherapy by the use of any other therapeutic resource which may be available.

Streptomycin is too valuable to be used wastefully. Until methods are discovered for the prevention of bacterial resistance, the suppressive effect of streptomycin may be available to a patient only once in the course of his tuberculous infection. Therefore, the drug should be reserved for the time when it is really needed. It is not indicated in minimal pulmonary tuberculosis and often should not be used in moderately advanced cases, unless the patient is acutely ill or fails to respond to an adequate trial of other treatment.

Surgical Uses.—Moreover, we do not believe that streptomycin should be used as prophylactic treatment without sufficient reason. Chemothera-

py certainly is not necessary in an uncomplicated thoracoplasty. However, streptomycin probably should be prescribed routinely in pulmonary resection and in other excisional procedures, when there is danger of extension of disease, of reactivation of foci of infection or of hematogenic dissemination. It is generally agreed that chemotherapy is valuable and justifiable in surgical treatment of the genitourinary system, in orthopedic surgery and in the surgical treatment of constrictive pericarditis. When streptomycin is used prophylactically in surgery, the period of preoperative treatment should not be longer than ten to fourteen days in order to insure persistence of the suppressive effect of the drug throughout the postoperative period.

Thus streptomycin is often of great value in conjunction with the surgical treatment of tuberculosis. It is true, likewise, that in some conditions surgical procedures improve the results of chemotherapy. For instance, it has been demonstrated that drainage and possibly débridement of tuberculous abscesses during treatment with streptomycin increases the probability of a successful result.

Bacterial Resistance

The phenomenon of bacterial resistance is one of the chief limiting factors in streptomycin therapy. When streptomycin-sensitive tubercle bacilli are supplanted by drug-resistant organisms, the patient becomes refractory to further chemotherapy. In nearly all instances, resistance of high degree has proved to be a persistent and, possibly, a permanent characteristic of bacterial strains. The virulence of resistant tubercle bacilli apparently is unchanged and especially stringent precautions should be taken to prevent the dissemination of such organisms. Because of the possibility of the production of drug-resistant strains, streptomycin should not be administered without sufficient reason to persons who are expected to remain infectious.

Before exposure to streptomycin, nearly all strains of Mycobacterium tuberculosis, of both human and bovine types, are predominantly sensitive to the drug.[13] After six weeks of treatment, predominantly resistant strains can be recovered from approximately a fourth of all patients who continue to discharge tubercle bacilli; after sixteen weeks of treatment, approximately three fourths of all strains are resistant. It appears, therefore, that it should be possible in many instances to avoid the occurrence of bacterial resistance by curtailment of the duration of treatment. Fortunately, in many tuberculous conditions, treatment for five or six weeks or for even briefer periods often is sufficient to accomplish the purpose of chemotherapy.

When it is possible to make frequent and rapid studies of sensitivity to streptomycin *in vitro*, duration of treatment may be determined on this basis. If cultures of Mycobacterium tuberculosis are made on a solid medium containing various concentrations of streptomycin, it is possible to estimate the relative numbers of sensitive and resistant organisms in any specimen.[7]

Apparently, the number of resistant organisms and the degree of their resistance increase during chemotherapy by a fairly gradual process. Therefore, it may be possible to halt treatment in time to avoid high degrees of resistance. When the growth of cultures recovered from a patient is approximately half as heavy on medium containing 10 micrograms of streptomycin per milliliter as on medium not containing streptomycin, continuation of chemotherapy probably is inadvisable in most cases.

In our experience, egg yolk agar containing 2 per cent glycerin is an easily prepared and otherwise satisfactory medium in which to incorporate streptomycin for the determination of drug sensitivity. The method can be used either for the primary isolation of a culture of Mycobacterium tuberculosis,[7] or for subcultures. Other solid mediums have also been found suitable as a basis for streptomycin-sensitivity studies. The solid medium of Dubos is being used in some laboratories.[8]

Methods being investigated for the prevention or delay of bacterial resistance include regimens of discontinuous treatment and the administration of streptomycin together with other drugs which also are antibacterial in respect to tuberculosis. Preliminary results indicate that some degree of success possibly is achieved by both methods, but the problem of bacterial resistance is by no means solved.

Administration, Dosage and Toxicity

Although streptomycin has been used clinically for more than three years, matters pertaining to dosage and administration are still undergoing critical analysis. It appears that in most types

of tuberculosis an adequate regimen would be one which produces a prolonged bacteriostatic effect but that in the more serious forms of the disease a regimen which is at least partly bactericidal would be highly desirable, if attainable. In tuberculous meningitis, the patient's natural powers of recovery appear to be so insignificant that permanent arrest of the disease process probably occurs only when the infection is eradicated or nearly eradicated.

In practice, results in tuberculous meningitis have been best when treatment with streptomycin was intensive. The consensus at present is that the daily dose of streptomycin should be approximately 0.02 gm. per pound of body weight and that treatment should be continued for at least three or four months. In the experience of most investigators, remission in tuberculous meningitis has been sustained only when intramuscular administration was supplemented by the intrathecal injection of streptomycin, 25 to 100 mg. being administered intrathecally every twenty-four to forty-eight hours during the first six or eight weeks of treatment.

In a report on 105 cases of tuberculous meningitis, the Streptomycin in Tuberculosis Trials Committee of the Medical Research Council of Great Britain[12] stated that a third of the patients receiving streptomycin by both intramuscular and intrathecal routes were doing well after 120 days of observation, whereas only a ninth of the patients receiving the drug by intramuscular administration alone were doing well at the end of that period. In this study it was found that intrathecal injection produced very high concentrations of streptomycin in the cerebrospinal fluid. From one to three hours after the injection of 0.1 gm., the level was 750 to 2,000 micrograms per milliliter of fluid. In such concentrations, streptomycin surely is bactericidal for tubercle bacilli which were accessible to the drug.[4]

In generalized miliary tuberculosis without meningitis, it is probable that the dose of streptomycin should be relatively large and that treatment should be prolonged. It may be true, also, that high concentrations of streptomycin in the blood are necessary in renal tuberculosis, if bacteriologic conversion of the urine is to be permanent. However, in renal tuberculosis, dosage must be adjusted to renal function, because, when function is impaired, concentrations of streptomycin in the blood may be excessive.

In all other forms of tuberculosis which are amenable to chemotherapy, results are satisfactory when the dose of streptomycin is relatively small and when the period of treatment is relatively brief. The pathologic characteristics of most forms of tuberculosis are peculiar in that eradication of the infection probably is seldom possible by any means. Fortunately, the host usually has considerable natural powers of defense, and, when streptomycin is needed to bolster these powers, it appears that clinical results are equally good whether the drug is chiefly bacteriostatic in effect or whether an attempt is made to produce a bactericidal effect.

For two and a half years, at Mineral Springs Sanatorium, we have been using streptomycin in a dose of 1 gm. a day with results comparable to those achieved previously with larger doses. It appears now that further reduction of the dose is possible in the treatment of the more susceptible types of tuberculosis. After a study in which more than 3,000 patients were treated with streptomycin under various systems of dosage, the Streptomycin Committee of the Veterans Administration[11] concluded that there was no detectable loss of therapeutic efficacy as the daily dose was reduced from 2 gm. to 1 gm., and they added, tentatively, that no loss of efficacy appeared to follow a further reduction of the dose to 0.5 gm.

It has been found that the frequency of administration can vary greatly. Results appear to be as good when the drug is administered only once or twice a day as when the total daily dose is divided into a number of fractions administered at frequent intervals. However, as the minimal effective dose is approached, the rationale of infrequent administration becomes questionable.

As the dosage has been reduced, there has been proportionate decrease in the potential toxicity of streptomycin. When the daily dose is 1 gm. or less, toxic manifestations are low in incidence and in degree of severity. Vestibular disturbances occur in only a small proportion of patients receiving small doses of streptomycin; loss of labyrinthine function, when it occurs, tends to be partial and, in some instances apparently reversible.

When dosage is translated into terms of body weight, it should be possible to prescribe streptomycin with the dual assurance of achieving the desired therapeutic result and of avoiding all

toxic effects except those which are due to idiosyncrasy or to acquired sensitization to the drug.

Summary and Conclusions

Streptomycin probably will be the standard of efficacy for the estimation of other chemotherapeutic agents in tuberculosis. It may also be the basis for most new regimens of chemotherapy. The administration of streptomycin together with other compounds which are antibacterial in respect to tuberculosis may have the twofold advantage of an increase in therapeutic effect and of the prevention or delay of the occurrence of bacterial resistance. Until the all-important problem of resistance is solved, it is possible that the phenomenon may be avoided in many instances by arbitrarily limiting the period of treatment to six weeks or less, or by discontinuing treatment whenever studies of sensitivity show a relative increase of the number of resistant tubercle bacilli in cultures recovered from the patient.

The efficacy of streptomycin depends on the accessibility of tuberculous lesions to the drug and on the absence of irreversible anatomic changes. As a rule, these conditions obtain more often in recent lesions than in those of long standing. As chemotherapy becomes established, the ultimate results should improve, because an increasing number of patients will receive streptomycin in stages of disease which are optimal for treatment.

All types of tuberculosis treated with streptomycin are subject to relapse. In pulmonary tuberculosis, especially, streptomycin alone seldom provides definitive treatment. It never was predicted that chemotherapy would supplant rest, collapse therapy and excisional surgery. It has become evident that streptomycin and other therapeutic resources are mutually beneficial and the phthisiologist must now consider chemotherapy in all its aspects in the management of any patient.

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AMA PROCURES SEX FILM FOR SCHOOLS

The Committee on Medical Motion Pictures of the AMA has secured the movie, "Human Growth," 16 mm., color, sound, 750 feet (one reel), which is designed to teach the facts of life to children in the sixth through ninth grades of junior high school.

Several months ago *Life* magazine termed this movie, first shown in Oregon, as "epoch-making." It makes clear the growth of the human body, the development of the glands and the reproductive process. But more important, it stimulates classroom discussion.

The movie is only nineteen minutes long, but into it has gone nearly ten years of careful research, financed by the University of Oregon's E. C. Brown Trust Fund. Its author, Dr. Lester F. Beck, a professor of psychology at the university, had tested every step of the filming with parents and teachers.

The committee has procured another film entitled "Human Reproduction," black and white, sound, 825 feet (one reel), showing time twenty-three minutes, which illustrates the anatomy and physiology of the human reproductive system with explanation of ovulation and menstruation.

A third film entitled "A Life In Your Hands," black and white, sound, showing time nine minutes, depicts the new National Blood Program and portrays why this program is so urgent at this time.

Physicians called upon to address lay audiences such as service organizations, parent-teacher associations and other groups may find these films a useful adjunct in their lectures. The films are procurable on loan to physicians from the committee.—Secretary's Letter, A.M.A., Oct. 18, 1948.

STREPTOMYCIN AND NEWER ANTIBIOTICS IN THE TREATMENT OF INFECTIONS OTHER THAN TUBERCULOSIS

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Streptomycin

CLINICAL experience with the use of streptomycin in the treatment of infections due to organisms sensitive to its action now covers about four years. My discussion on streptomycin is limited to its use in the treatment of infections other than tuberculosis. In this same symposium Dr. Pfuetze has discussed this other aspect of streptomycin therapy.

Some reasonable conclusions concerning the effectiveness as well as the limitations of streptomycin can be made. At this point I should like to mention a matter which cannot be overemphasized, that is, the need for better bacteriologic facilities in all hospitals. If streptomycin or other antibiotics are to be applied intelligently in the treatment of infections and contagious disease, the physician must have the collaboration of his colleagues in the field of bacteriology and he also must familiarize himself with the organisms which are considered sensitive to streptomycin.

Streptomycin has proved exceedingly effective in the treatment of certain types of bacteriemia and infections of the urinary tract due to Gram-negative organisms which are sensitive to its action. The four streptomycin-sensitive organisms which are most commonly encountered in infections of the urinary tract and bacteriemia are Escherichia coli, Pseudomonas aeruginosa, Proteus vulgaris and Aerobacter aerogenes. The results are considerably better in the treatment of infections due to Proteus vulgaris and Aerobacter aerogenes than in the treatment of infections caused by Pseudomonas aeruginosa and Escherichia coli. Organisms belonging to the typhoid-dysentery group are considered fairly sensitive to streptomycin; however, streptomycin has not proved of great value in the treatment of typhoid and dysentery. One of the organisms most sensitive to the action of streptomycin is Klebsiella pneumoniae (Friedländer's bacillus). It is well established that good clinical results have been obtained from use of streptomycin in the treatment of pneumonia and also meningitis due to this organism. Likewise, streptomycin has been found of value in the treatment of ozena and rhinoscleroma, two conditions in which it is not difficult to obtain positive cultures for Klebsiella. Recurrences, however, not infrequently occur because this organism at times appears to possess the ability to become quickly resistant to streptomycin.

Among other organisms which are sensitive to streptomycin are Pasteurella tularensis and Pasteurella pestis, the causes of tularemia and plague. True enough, tularemia is not very common and plague is, of course, rare in this locality. Clinical experience has clearly demonstrated, however, that all forms of tularemia respond magnificently to treatment with adequate doses of streptomycin. By adequate doses for this particular infection I mean 1 to 2 gm. daily for five to seven days. It is unlikely that a causative organism which is resistant to streptomycin will be encountered in tularemia. The literature contains a number of reports suggesting that streptomycin is of great value in the treatment of plague.

It is fortunate that the organisms belonging to the genus Hemophilus are rather sensitive to the action of streptomycin. Hemophilus influenzae, the cause of influenzal meningitis and severe tracheitis, is very sensitive to streptomycin. In the treatment of influenzal meningitis of the severe type, streptomycin should be combined with sulfadiazine and, in some cases, combined also with serum therapy. I am aware that some physicians are reluctant to give streptomycin by the intrathecal route; however, my colleagues and I routinely give 100 mg. in 10 c.c. of physiologic saline solution by this route every other day for the first few days in the treatment of this infection. Hemophilus pertussis, the organism which causes whooping cough, is known to be sensitive to streptomycin; therefore, it is difficult for me to understand why there have been so few clinical reports dealing with the use of streptomycin in the treatment of whooping cough. As I have already said, experimentally it is very effective against this infection. Recently Coffey and Levy reported on the use of streptomycin in four cases of pertussis pneumonia, and Decanio reported on

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its use in two cases of severe whooping cough. These investigators were of the opinion that streptomycin was effective. I also have used streptomycin in two cases of whooping cough in which it definitely appeared to exert a beneficial effect on the course of the disease. It is my conviction that studies on the use of streptomycin in the treatment of whooping cough should be expanded.

Organisms of the genus Brucella, mainly Brucella abortus, Brucella melitensis and Brucella suis, are only moderately sensitive to streptomycin. The early clinical reports on the use of streptomycin in the treatment of brucellosis indicated that streptomycin had a suppressive effect on this infection, but when used alone for this infection streptomycin could not be considered curative. Pulaski and Amspacher deserve great credit for their observation that streptomycin and sulfadiazine combined seemed to have some additive effect in the treatment of brucellosis. The usual procedure is to give enough sulfadiazine to establish a concentration of 10 to 12 mg. per 100 c.c. of blood and at the same time to administer 2.4 gm. of streptomycin per day by the intramuscular route. This course of treatment is continued for twelve to fourteen days. This method is exceedingly effective in the treatment of the uncomplicated bacteriemic forms of the disease. It is of little or no value in the so-called chronic brucellosis without positive blood cultures. These observations made by Pulaski and Amspacher have been extended considerably by Eisele and McCullough and also by Spink and his colleagues. Results obtained by my colleagues and me are also in agreement with those reported by these investigators.

The use of streptomycin in the treatment of certain infections due to some Gram-positive cocci deserves our attention. On occasions streptomycin has proved itself life saving in the treatment of infections including bacteriemia due to some strains of Staphylococcus aureus and to some strains of streptococci which are, or have become, resistant to penicillin.

From what I have said streptomycin apparently has a wide range of clinical application. On the other hand, let me recapitulate for a moment. The conditions in which streptomycin is effective are infections of the urinary tract and bacteriemia due to sensitive Gram-negative and some Gram-positive microbes. Let me point out, however, that bacteriemia owing to Gram-negative organisms is encountered in relatively few instances in any active medical service. Friedländer's infections also respond satisfactorily to treatment with streptomycin but these infections are certainly not common. Influenzal meningitis and whooping cough are benefited by streptomycin but these infections also are not commonly encountered. Tularemia and plague can be treated satisfactorily and I also might add that cholera may respond satisfactorily to streptomycin therapy. Finally, there is the problem of brucellosis which is, of course, a major one, but streptomycin alone is not entirely effective in the treatment of this infection. In other words, streptomycin is a valuable and useful antibiotic in the treatment of a limited number of infections, some of which are exceedingly rare, at least in Minnesota.

These observations bring to me a question which I would like to lay before you. Who is using all the streptomycin that is being sold? For what is it being used? I am bold enough to suggest that some of our colleagues are treating temperature charts and not the microbes which cause the infection. The fact that streptomycin is not completely without toxic effects should be kept in mind. Prolonged use of streptomycin in amounts of more than 1 gm. per day by any method other than the oral route inevitably will have a toxic effect on the eighth nerve, and a disturbance in vestibular function will result. It is essential, therefore, that more care be exercised in the routine use of this antibiotic.

I should say a word about the oral use of streptomycin. When streptomycin is given by mouth, it does not enter the blood stream and, therefore, it can be given with safety in rather large doses for certain purposes. Two to four grams per day can be given by mouth in four divided doses in the preoperative preparation of patients who are to undergo surgical procedures on the bowel. This is an effective way of reducing the bacterial flora of the intestinal tract. Furthermore, this method is effective in the prevention and the treatment of infections of the urinary tract which on occasion may follow ureteral transplantations to the large bowel.

Methods of administering streptomycin are well established. I will mention a few. It has been our practice to use a stock solution of streptomycin for intramuscular administration. This solu-

tion contains 200 mg. of streptomycin per cubic centimeter of saline solution or distilled water. The average daily dose consists of 1.5 c.c. of this stock solution given every three hours by the intramuscular route. This solution is fairly stable. When streptomycin is to be administered in combination with penicillin, the stock solution contains 100 mg. of streptomycin and 20,000 units of penicillin per cubic centimeter. This solution should be made up fresh every two or three days. For intrathecal administration, it is recommended that 100 mg. of streptomycin be administered in 10 c.c. of saline solution. For inhalation or nebulization therapy, the solutions contain 50 to 100 mg. of streptomycin per cubic centimeter. It is well established that streptomycin may be administered alone or in combination with penicillin. The average daily dose of streptomycin employed for the treatment of severe infections should be 2 to 3 gm. In the treatment of acute infections, it is seldom necessary to employ this amount for longer than ten to fourteen days. In fact, there are some acute infections, such as those of the urinary tract, in which the total duration of treatment probably should not exceed five to seven days. Prolonged periods of treatment with streptomycin are seldom justified except in cases of tuberculosis and some types of brucellosis, particularly those in which the brucellosis is complicated by infection involving the bone or other structures. In this latter situation the same dose schedule which has been recommended for the treatment of tuberculosis is adopted. In other words, the average daily dose is 1 gm. If satisfactory results are to follow the treatment of most acute infections, they will do so within ten to fourteen days of treatment.

Organisms at times will become resistant to streptomycin with incredible rapidity. In addition to the toxic effect on the eighth nerve, cutaneous toxic reactions may occasionally result from streptomycin therapy. These may take the form of either dermatitis or urticaria. Occupational dermatitis often develops among individuals who handle streptomycin, and this is also an important matter.

Streptomycin is, indeed, a useful antibiotic but its usefulness is being seriously hampered by the lack of better selection of cases in which it is to be used. Let me repeat: "Treat the bacteria and not the fever."

Newer Antibiotics

I have been asked to mention some of the newer antibiotics under investigation. The newer antibiotics that I am about to discuss have not been released for general use but they are important enough to justify consideration.

Bacitracin.—Bacitracin is one of the newer antibiotic agents. It was described by Johnson, Anker and Meleney in 1945. It is elaborated by a strain of Bacillus subtilis. Like most antibiotic agents of bacterial origin, it has certain toxic properties. Bacitracin is a rather stable and freely soluble substance. It has a bacterial spectrum not unlike that of penicillin; that is, it is effective against organisms which in general are sensitive to penicillin. For that, among other reasons, it has not been widely used in the treatment of those conditions in which penicillin continues to prove effective. In addition to inhibiting many organisms present in pyogenic infections it appears to be effective against the organisms responsible for so-called gas infections. Like penicillin, it also appears to have some antispirochetal activity. To date, its clinical application[10] has been mainly as a local agent in the treatment of a variety of infections. It can be used in the form of an ointment containing 500 units per gram or as an aqueous solution containing approximately 500 units per cubic centimeter. Eagle and Fleischman have used the material in experimental studies in combination with penicillin in the treatment of syphilis. My colleagues, F. R. Heilman and D. R. Nichols, and I have investigated this agent for some time. We have not felt that the material was sufficiently safe to use it systemically except in a very few instances. Its use is limited because of the nephrotoxic effect which occurs when it is administered to animals as well as to human beings. In human beings albuminuria is practically always seen following its systemic administration. The recommended dose for intramuscular injection is approximately 20,000 units four times per day. If it is to be given by intramuscular injection, great caution should be exercised.

Chloromycetin.—Chloromycetin is an interesting antibiotic which was first described by Ehrlich and his colleagues. This antibiotic is obtained from a strain of Streptomyces; it is a fairly stable, water-soluble substance which can

be administered by the oral route. To date, the most important observation about this substance has to do with its effectiveness against certain rickettsiae.[14] Smadel and his associates[15] have studied this antibiotic rather extensively and have used it clinically in the treatment of murine and scrub typhus. Payne and his colleagues also have reported its use in the treatment of epidemic typhus. According to their observations, the patients begin convalescence within a few days. The recommended dose by mouth is 10 to 15 mg. per kilogram of body weight. The material may be administered by mouth or intravenously, provided it is given slowly. No serious toxic effects have been reported after its use. I have had no experience with this material.

Polymyxin and Aerosporin.—Almost simultaneously these two substances were announced. The first American reports on polymyxin were made by Benedict and Langlykke of the Northern Regional Research Laboratory and by Stansly, Shepherd and White of Johns Hopkins Hospital. This substance is elaborated by Bacillus polymyxa and, therefore, it was given the name "polymyxin." From the early reports it appeared that this substance was effective against some very important Gram-negative microbes including organisms which belong to the colon-typhoid-dysentery group. Rather extensive clinical studies have been made by Schoenbach, Bryer, Bliss and Long at Johns Hopkins Hospital. Polymyxin appears to be a little more toxic than streptomycin but to date no serious difficulties have been encountered except some evidence of renal irritation. My colleagues and I have used polymyxin in the treatment of a few severe infections of the blood stream owing to Gram-negative organisms which were, or had become, resistant to streptomycin. We have been impressed with its effectiveness in some of these cases; however, our clinical studies have not progressed to a point which would justify any final conclusion. At any rate, it appears to be a promising antibiotic.

Aerosporin, which is probably closely related, if not identical, to polymyxin, was reported by the British investigators Ainsworth, Brown and Brownlee. As I have already said, this report appeared almost simultaneously with the report on polymyxin. Aerosporin is elaborated by Bacillus aerosporus and for that reason was called "aerosporin" by the investigators in England. Brownlee and Bushby have studied this substance intensively. Among the important pathogenic organisms against which it is effective are Salmonella typhosa, Hemophilus pertussis and Escherichia coli, as well as many other Gram-negative pathogens. These investigators[3] have pointed out that it was extremely difficult to induce organisms to become resistant to aerosporin. This is an observation of great practical importance. Swift was encouraged by the results obtained from this treatment in 10 cases of whooping cough. This is another interesting substance but it will require further observation before any final statements can be made concerning its clinical use.

Comment

As all realize, I am sure, the antibiotics present an active, ever-broadening subject for study. I would like to re-emphasize, however, that physicians must prepare themselves to use these substances intelligently. This can be accomplished only by closer collaboration of the clinical bacteriologist and the clinical investigator.

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SUMMARY OF SYMPOSIUM ON ANTIBIOTICS

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YOU have heard three excellent presentations and there is little for me to add except to emphasize one or two points. I should like to stress what Dr. Boyer has had to say concerning the potential toxicity of penicillin. The reactions that this antibiotic induces may be very severe, requiring hospitalization for many days. It is not unusual for the following to happen: an individual with a relatively benign upper respiratory infection is given one or two injections of penicillin, and there ensues a delayed type of reaction simulating serum sickness. While eventual recovery occurs, the patient in the meantime is exceedingly uncomfortable and is incapacitated for many days. While the many advantages of penicillin outweigh the disadvantages of the drug, its virtues should not be abused.

A question of interest to physicians is, with the widespread use of penicillin are not strains of bacteria becoming resistant to the action of the drug? Fortunately, this has not become a serious problem in clinical medicine with the one exception of staphylococcic infections. In several instances highly penicillin-resistant strains of staphylococci have been isolated from tissues or blood of patients at the University Hospitals. In some cases, streptomycin has been used successfully. On the other hand, I do not know of a single instance where a strain of gonococcus has become resistant to penicillin in the patient. This also applies to hemolytic streptococci and pneumococci. One of the outstanding features of penicillin is its failure to induce penicillin-resistant strains of bacteria on a broad scale, such as has occurred with the sulfonamides.

I should like to append a few remarks about the administration of penicillin. Indeed, the man in general practice must be quite confused as a result of the various penicillin products that have reached the market. Much attention today in commercial circles is being focused on penicillin preparations which when injected will be slowly absorbed. High-pressure sales forces are dispatching air mail letters to the medical profession describing the excellence of their new product, which is fitted to yield the maximum results from a single injection of penicillin. As far as we are concerned at the University Hospitals, we have not subscribed to the routine use of any of the products of penicillin which produce delayed absorption. No one has convinced us that sustained and demonstrable levels of penicillin in the blood are necessary in the treatment of bacterial infections. We prefer the use of crystalline penicillin in the form of aqueous solution of the sodium G salt. Furthermore, in the treatment of systemic disease due to many species of bacteria, such as pneumococcic infections and hemolytic streptococcic disease, two or three injections a day of aqueous solutions of penicillin G are given. In the treatment of the average case of lobar pneumonia, 100,000 units every eight to twelve hours are sufficient. In the treatment of subacute bacterial endocarditis and staphylococcic bacteriemia it may be desirable to give larger doses of penicillin at more frequent intervals, that is, every three hours. In the case of relatively resistant strains of streptococcus viridans or staphylococcus, one may administer intravenously 1 million units of crystalline penicillin G in 10 ml. of saline solution. This will produce immediate blood concentrations of over 100 units per ml. Repeated injections of this magnitude may be employed.

There is one additional point that may be made about streptomycin. When this agent is used in the treatment of urinary tract infections it is important to insure an alkaline urine by the administration of alkalies. There appears to be no doubt that the larger the dose the more likely is the clinician to encounter toxic reactions, especially disturbances in vestibular dysfunction. There must be but a rare instance when it becomes necessary to administer more than two grams of streptomycin daily. In using streptomycin in the treatment of brucellosis at the University Hospitals, our policy at present is to give 0.5 gram intramuscularly every eight hours for ten days. At the same time that streptomycin is started, sulfadiazine is administered orally with an initial dose of 3 to 4 grams and then 1 gram every four hours for ten days. Administration of both drugs is discontinued at the end of ten days of treatment.

Again, I should like to express the appreciation for the Association to these men for the excellent presentations that they have made.

THE FIRST LINE OF DEFENSE

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POINTS 3 and 4 of the National Health Program of the American Medical Association, adopted by the Board of Trustees and the Council on Medical Service, February 14, 1946, projected the broad objectives of the medical profession in the field of maternal and child welfare. These two parts of the program are as follows:

Point No. 3.—The procedures established by modern medicine for advice to the prospective mother and for *adequate care in childbirth* should be made available to all at a price that they can afford to pay. When local funds are lacking for the care of those unable to pay, federal aid should be supplied with funds administered through local or state agencies.

Point No. 4.—The child should have throughout infancy *proper attention, including scientific nutrition, immunization against preventable disease and other services included in infant welfare.* Such services are best supplied by personal contact between the mother and the individual physician but may be provided through child care and infant welfare stations administered under local auspices with support by tax funds whenever the need can be shown.

These objectives are primarily those of the nucleus of an over-all health program. They are concerned with the preventive phase of medicine and public health; "the first line of defense." Prevention of disease is the logical approach to any over-all health program. I should like to emphasize that in speaking of disease and health one should refer, not to physical health alone, but to mental health as well. Mind and body are so closely related and intertwined that to treat them separately, especially in a preventive health program, would be to overlook the whole in focusing on one specific part.

Preventive medicine has been receiving more attention in recent years than it received previously. Not long ago its connotations were more or less limited to purely immunizing procedures for the prevention of some of the communicable diseases. Now more and more it is being recognized that the field is much greater than this one important area. Preventive medicine begins to deal with the individual at the time of conception and theoretically ends with his death from senility. Thus in the over-all health program one can see how the aforementioned points in the National Health Program can be interpreted as a foundation for the whole structure.

"To prevent" is defined usually as "to keep from happening." As just one example of the "to keep from happening" one may cite the problem of premature birth. Prematurity is now the leading cause of death in the first year of life and one of the leading causes for all ages. If by improved prenatal care premature births can be substantially reduced, this approach would seem to be just as important as that of the care of the premature baby after it has arrived. In any kind of a program where all phases are so important, it is difficult to have the vision to place each phase in its position of relative importance. To implement an over-all health program we should not this year stress prenatal care, next year adequate nutrition, the next immunization, and the next mental hygiene, and so forth. On the contrary, we must synchronize all of these phases to the best of our ability into one concerted and continuous effort.

It is quite human to have a rather practical "dollars and cents" viewpoint of things and we are prone to make evaluations in that light. We all would probably desire "value received" for any investment. Many investments made today are in anticipation of "value received" in the future. It would then, to most of us, seem logical to spend $10 today to prevent the expenditure of $100 perhaps next month. That is somewhat of an oversimplification of the purpose of preventive medicine, but from the purely monetary viewpoint would it not seem advisable to spend $1,000 each year to implement an immunization program against smallpox rather than to spend $10,000 for the care of patients who have the disease?

One feels that, if a present-day approach is used, mental disease as well as physical disease may be to some degree preventable. The total cost of the care of mental patients is now a sizable portion of the money expended for medical and hospital services. Is it illogical to assume that an investment in the prevention of mental

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disease will bring a tenfold return in a reduction of the cost of care of the mentally ill patient?

I should like to consider points 3 and 4 in the National Health Program more in detail and to make some attempt at personal interpretation. What *are* the procedures established by modern medicine for advice to the prospective mother? Today's modern medicine may not be so modern tomorrow. The same must be applied to the term "adequate." It is almost impossible to define "adequate" in relation to a program such as this. The concept of adequacy is ever-changing, as well it should be. What was "adequate" for our grandfathers we would no doubt consider inadequate for ourselves and what we may deem adequate in our day may just as surely be termed totally inadequate by our grandchildren. Adequacy, therefore, may be one of those unobtainable goals by which we progress—always striving toward the goal just beyond our reach.

Advice to the prospective mother may, for the sake of discussion, be divided into physical, mental and nutritional. One is hesitant to make a division even for the sake of discussion for fear of implying a separation and a specificity that are entirely undesirable. The physical advice will include an evaluation of the general health of the mother. Is there any illness or abnormality present that pregnancy will affect in a way harmful to her or the baby? If so, is it amenable to treatment? Most obstetricians feel that this evaluation should be made before *pregnancy* occurs, but *certainly* as soon as it is suspected. After the initial examination it is desirable that the mother be seen regularly throughout the pregnancy. In this way both maternal and infant morbidity and mortality rates may be substantially reduced. The early detection of any of the complications of pregnancy may be life-saving to the mother. Aiding the mother to carry the baby to full term may indeed be life-saving to the baby as well.

The mental and emotional environment of the baby may be well set in this prenatal period. Intelligent, understanding counseling will better prepare the mother to care for her baby. Not a small part of this advice may be devoted to telling her what babies are like and what she may expect in the way of growth and development. A great many tensions and anxieties may be lightened or prevented by some effort to anticipate and interpret, at each stage of development, the baby's normal activities. This is especially true of mothers with their first babies.

Many of us feel now that modern medicine rather shortchanged itself, by improving maternal care to the exclusion of similar thought for the baby. With an ever-increasing number of hospital births occurring, great strides have been made in the reduction of maternal mortality rates. We are realizing, however, that the *emotional* welfare of the newly born baby was rather forgotten. In the desire to maintain him in a relatively sterile atmosphere as far as germs were concerned we made the atmosphere even more sterile in the way of affectionate infant-mother, and even infant-father, relationships. From the mother's point of view the modern hospital situation is usually unsatisfactory because she is constantly anxious about the welfare of her baby, whom she sees only at nursing time. From the infant's standpoint, his desires are not attended to as they arise, because, out of necessity, the organization of the obstetric floor and nursery must be maintained on a rather definite time schedule. If he happens to become hungry at 2:30 when it is visiting time, he is "just plain out of luck."

Poor father! He is definitely looked on as carrying a very special kind of germ. He must view this new heir through a wall of glass, is shooed out of the room when the baby is with the mother, and to consider the possibility of allowing him to *hold* the baby would be revolutionary! Can you see any remote similarity between this situation and a normal family relationship? When babies were born at home these barriers weren't present. There must be a compromise somehow. This compromise is being made on a trial basis in several sections of the country at present. It is commonly known as the "rooming-in" plan and consists simply in having the baby's crib in the mother's room, thus restoring the normal relationship. The baby's needs are attended to as soon as they arise. The mother can see her baby at any minute of the day or night and know that he is all right. She may observe the ordinary techniques of baby care and in a short time take over completely with full confidence. The father is allowed to see his family together and even to hold the baby.

The attitude of the mother toward breast feeding may be determined during the prenatal period and eventually influence not only the baby's well-being but the mother's as well. Breast feeding is "coming back." The incidence of breast feeding will increase undoubtedly as it *again* comes to be the accepted method.

Advice about nutrition during the prenatal period is also being recognized as an extremely important preventive effort. It should have the practical objective of helping the mother to choose the correct diet with due cognizance of the present-day cost of foods, their nutritional value and her *food budget.*

What is adequate care in childbirth? Categorically one would think of adequate care as that which results in the least possible morbidity or mortality rate in either baby or mother. In the majority of confinements the whole process is a purely normal physiologic event and the medical personnel are merely assistants. It is in those situations in which nature needs more than ordinary help that the question of adequate care in childbirth becomes important. Many of these complicating situations may be anticipated if there has been regular prenatal care. Others may be entirely unpredictable and present real emergencies. The problem, then, is first, to have medical personnel trained in the diagnosis and treatment of obstetric problems and emergencies; second, to detect abnormalities early so that the problems may be met *before* they become emergencies—this either in prenatal or in obstetric care; and third, the purely physical need of having the patient and the obstetrician together at the right time. This last point is somewhat of a problem even in the large urban communities and is much more definitely a problem in the rural areas. It has been solved in some regions by having ambulance service available at all times to transport the mothers to hospitals. Thus by bringing the patient to the obstetrician rather than having him make long trips to the patient, he is enabled to give service to more people and is in a position where he has equipment and personnel immediately available for almost any complication that may arise. The alternative, in order to provide even an approximation of good medical care, might be to have available a mobile obstetric unit. However, babies notoriously do not arrive "on schedule" and it would be somewhat disrupting to be delivering Mrs. Jones' baby just at the minute Mrs. Brown's baby was arriving ten miles to the east.

These problems are being worked out and we are certainly going forward rather than backward. One can hardly expect an elaborately appointed and staffed obstetric service to be immediately available in the most remote and sparsely populated parts of our country any more than one would expect elaborate installations in other community enterprises such as fire protection, supermarkets and apartment houses. Neither is elaborate equipment necessary. The well-trained physician in general practice has done, is doing and will continue to do a good job of obstetrics. Getting the patient to the physician rather than the reverse seems a more practical approach in the more remote areas. Real life-saving emergencies are rare and instances in which careful transportation of the patient is contraindicated are still rarer. If the physician has a chance to anticipate difficulty in prenatal visits he may make arrangements beforehand for consultation or delivery in a larger center where facilities are available to handle the problem.

Now let us assume that point 3, relative to the mothers, has been carried out to the best ability of all concerned and that we have a brand-new member of the community on our hands.

Point 4, care of the baby, now comes into sharper focus. There should be no definite demarcation between obstetric and pediatric care, but a real continuity of service. It is much like a relay race in which for a very short time the obstetric and pediatric practitioners are both carrying the baton. However, in by far the majority of instances it is the physician in general practice who is running the whole race and plays the role of a steady distance runner rather than of the sprinter.

I should like to comment briefly on the statement made in point 4 that "such services," referring to preventive pediatric care, "are best supplied by personal contact between the mother and the individual physician." This element of personal contact, personal interest and mutual confidence is that indefinable something for which there can be no complete substitute. Although the usual large well-baby conferences or clinics may approximate the relationship and provide excellent service, the rapport between mother, baby and physician is not quite the same.

In Rochester we conduct ten well-baby clinics a week in the city and several out in the smaller communities of Olmsted County each month. These clinics are staffed by pediatric Fellows of the Mayo Foundation and consultants from the Section on Pediatrics of the Mayo Clinic and from the Rochester Child Health Institute. The methods, general philosophy of growth, and devel-

opment and infant care are uniform. We are attempting to provide a comprehensive preventive medical program for all the children of the community. One of our greatest problems is to achieve a continuity of personal contact between the mothers and the physicians. The Fellow's period of service in the clinics is only three months. He and the patient are just beginning to know each other when another physician comes on the service. The consultants, however, play a supervisory role and are present or available at each clinic. The same consultants have supervised the care of the baby in the hospital during the newborn period and have talked with the mother each day at that time. In this way we hope to give some continuity of care and personal contact, but we feel that it falls short of the situation in which the parents have personally chosen the physician and this bond continues throughout infancy, childhood and the rest of life. An automobile is rather an impersonal thing; yet how many of us have a favorite garage and mechanic to whom we go when in car trouble? Another mechanic may do the work every bit as well but if we don't know him we lack confidence in the job done. When one realizes how prominent the element of personal confidence is even with such inanimate things as automobiles and groceries it is understandable that this relationship is infinitely more important in child care. Are not our children our greatest and most important possessions and responsibilities?

I shall therefore assume that the most desirable situation would be that in which the preventive program is carried out by the private physician. When this situation is not obtainable, then the child care and infant welfare stations will be a substitute and should be as complete a substitute as possible.

To define or interpret what may be "proper attention throughout infancy" is again surprisingly difficult. Minimal standards can be only approximations and maximal or ideal standards are unknown. Two years ago the American Academy of Pediatrics, with the assistance of the Children's Bureau and the United States Public Health Service, initiated a study of child health services throughout the United States. This includes, as well, an attempt to evaluate pediatric education in medical schools and hospitals. The analysis of these data together with recommendations will be published sometime this year. It is anticipated that this study will give a comprehensive and fairly accurate picture of the present status of child health services and enable communities, especially on a state level, to improve their local services. It will provide a factual basis for future planning. It is becoming more evident and perfectly logical that, before the problem of distribution of child care can be effectively met, more emphasis on pediatric education must be made in medical schools and subsequent intern and postgraduate programs. Improvement of rural health facilities, however, need not wait on the development of a long-term educational program but may proceed simultaneously as part of the training program.

There are some phases of infant care that are felt to be basic and can serve as a foundation for the phrase "proper care." Nutritional advice was one of the first reasons for pediatrics to come into existence as a specialty. Advances in infant feeding in the past fifty years have been tremendous and have resulted in great simplification of the problem. As knowledge has increased, mortality rates from nutritional disturbances have decreased. Infantile diarrhea or "cholera morbus" is now insignificant in comparison to the problem it was a generation ago. The vitamin deficiencies such as rickets and scurvy are almost medical curiosities today. Nutritional advice should not stop after the "formula" period but should continue throughout childhood and on to adult life.

Immunization against preventable disease has most certainly been proved to be effective. The skepticism and superstition of the public concerning these procedures are becoming less evident. There are still some parents who say: "I wasn't vaccinated and I didn't get smallpox, so why should my baby be vaccinated?" They were indeed fortunate that they did not get smallpox but are they justified in taking the gamble for their child? Unfortunately, the baby or child has no choice in the decision. It is entirely the parents' responsibility. If a child seriously ill with diphtheria could say, "Mommy and Daddy, why didn't I get shots like Bobby did?" what could their answer be if they had assumed the responsibility of neglecting to have the immunizations done? At the present time effective protection can be offered against smallpox, diphtheria, whooping cough and tetanus. In some communities and under certain conditions scarlet fever, typhoid,

typhus, yellow fever, tuberculosis and cholera immunizations may be indicated. Universal immunization programs should be the concern and responsibility of all of us in the medical and allied professions. When smallpox and diphtheria are present in our community or state, we should each one of us feel that neglect of universal immunization is a *personal* failure and should do something about it.

The phrase "and other services included in infant welfare" could be interpreted to cover almost anything. However, I should like to feel that it applies primarily to the service of interpreting the infant's needs and behavior to the parents and of helping them appreciate what is normal growth and development. This service has been termed "mental hygiene." Since "mental hygiene" has somewhat the suggestion of abnormality, the title "child guidance," though not entirely satisfactory, seems more appropriate. Pediatric education, in its realization that there is not only a "sick child" to be considered but also a "well child," is putting more emphasis on the teaching of what a normal child is like. If parental guidance for a child can be adjusted to his normal capabilities and growth trends, his attainment of acceptable social behavior or conformity will be smoother. He will develop greater emotional stability if demands are made consistent with his abilities.

It is the nature of human life to be beset by daily crises of some degree. It certainly seems to be true in our world of today. One may assume that it will be not too different in the world of tomorrow. The patterns may change, but basically the problems of food, shelter and getting along with our neighbors will probably be similar. Therefore if, by child guidance, one can establish a smooth development, an understanding between child and parent and a chance for individual potentialities to develop, the frustrations of adult life may be less jolting. This guidance may be achieved through the individual practitioner, through the pediatrician, the public health nurse, the teacher, the social worker or others especially interested and trained in child care. The more deviate problems may require the services of a psychologist or psychiatrist. All of us, including the psychologist and psychiatrist, must first have a basic understanding of the normal.

Therefore, advice to the prospective mother, adequate care in childbirth and proper attention for the child throughout infancy are the objectives of the National Health Program of the American Medical Association. To bring a healthy child into the world and then to keep him healthy in mind and body would certainly seem to be "the first line of defense."

RESEARCH COUNCIL FOR ECONOMIC SECURITY

Voluntary plan for protection against sickness, old age, premature death and other major hazards now cover hundreds of thousands of workers in the Chicago metropolitan area. This was revealed in a recent study, *"Employe Benefit Plans in Chicago,"* just released by the Research Council for Economic Security, Chicago.

Questionnaires were sent to more than 2,000 employers, both large and small. Of these, 35 per cent were returned, reporting on about 700,000 employes. Of this number, 85 per cent have life insurance and about the same number hospital insurance. These are followed by compensation for wage loss due to illness (69 per cent of employes in reporting firms); pension and retirement plans (68 per cent); surgical benefits (50 per cent); and prepaid medical care (6 per cent). These figures apply only to employes in firms which participated. For the entire labor force, the figures would be somewhat lower. Protection by government systems and by individual employes themselves are not included.

"The purpose of the survey," said Gerhard Hirschfeld, Director of the Council, "is to show as accurately as possible how much protection industry provides for its employes on a voluntary basis. Similar surveys, now under way in St. Louis, Cleveland, Pittsburgh, Minneapolis, Saint Paul and other major cities, are expected to throw more light upon the nature and extent of employe benefit plans throughout the country."

The Research Council is a non-profit, non-partisan, privately financed organization engaged in studies in the field of social and economic security. Its chairman is Bertram J. Cahn, President of B. Kuppenheimer & Co.

THE TREATMENT OF OPEN WOUNDS OF THE HAND

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(Continued from November issue.)

Closure of the Wound

The ideal termination of the operation is closure of the wound. Primary closure by some means or other can be accomplished in practically all wounds which have been seen within eight hours of their occurrence.

If suture can be done, it should be accomplished without tension on the skin edges or on any tissue. Tight sutures cause necrosis with resultant tissue autolysis, and what is worse, furnish ready food for the ubiquitous facultative bacteria which thrive on dead tissue.

If closure by suture is impossible, the wound should be closed with some type of skin graft, either a free graft or a pedicle flap. In most cases, a thick split graft is the best choice. It will take very well on fresh wound surfaces and will very often serve as definitive closure. It may be removed in any size required. Very small grafts may be removed from volar surface of the forearm with an ordinary scalpel or razor blade. Larger split grafts will have to come from some other surface, usually the thigh. A dermatome is not necessary, since often the grafts are not large and a good sharp skin graft knife will serve very well and takes less time. The free full-thickness graft is seldom used on the surface of a fresh traumatic wound, since it requires almost perfect conditions for a successful take.

In some instances where there is exposure of bone or tendon, the surgeon may slide a flap of skin from one side of the wound and cover the flap bed with a split graft.

In most cases where bones, joints and tendons are exposed, they must be covered with a pedunculated flap. While the need for an immediate pedicled flap does not often arise, where it is indicated it is of immense value and will save bones and tendons from necrosis, which is certain to follow if they are left bare. Thus, in the degloving injuries, placing the hand at once under an abdominal flap will save the hand, whereas leaving bones and tendons exposed is sure to end in extensive and often irreparable loss. Flaps, however, need not always be large; some very small defects are often best covered with a small flap. For example, the tips of fingers where bone is exposed are best covered with a tiny pedicled flap raised from the opposite chest wall.

The surgeon should learn to take advantage of any adventitious flaps which may present themselves. Thus, the destruction of a finger may leave a sizable flap of skin which may be utilized to close defects of the palm or dorsum.

Secondary Closure

Secondary closure, as was developed during the recent war, should be generally recognized as a method of early closure, almost as satisfactory as primary closure except that primary nerve and tendon suture are not permissible. Wounds which are seen too late for primary closure or which are probably not surgically clean even after careful cleansing, or which for some reason or other cannot be kept under proper surveillance, will have to be left open. Such wounds receive the same initial care as any other wound. Joint capsules are closed if they have been opened, but nerves and tendons are not sutured. The wound surface is covered with a layer of fine mesh gauze and over this is placed a pressure dressing. A splint is applied and the wound left alone unless some untoward symptom arises. At the end of four to six days, the wound is uncovered in the operating room, and if it "looks all right" a closure is accomplished at this time.

Fractured bones may also be reduced often by internal fixation at this time, but it has never seemed logical to perform nerve and tendon repair, largely because of the dissection required to expose the ends and because they would lie in scar tissue. Secondary nerve and tendon repair is performed later after the wound has healed and the tissues have softened up.

The whole success of secondary closure depends upon the care with which the primary cleansing and excision of the wound has been carried out.

If this care has been inadequate, the wound at time of inspection will be found to contain necrotic tissue and often to evidence invasive infection. In such cases, further cleansing and debridement must be done and closure attempted several days later with, however, much less chance of success.

Fig. 3. Crushing burn sustained when hand was caught between a cold roller below, a hot roller above. Some skin actually burned away, remaining skin over large area of dorsum completely devitalized by pressure and third degree burn. Common extensor tendons to index and middle fingers destroyed and ends charred. Immediate excision, two and a-half hours after injury, of all devitalized tissue. Stumps of tendons were sutured to adjacent tendons and a large split graft applied. Upper row shows hand on admission and at time of first dressing six days later. Center row shows hand two months after injury, and lower row, three months after injury.

The Compression Dressing

The use of compression in surgery is a principle of treatment which has been recognized for many years. We owe to Blair and to Koch the present widespread use of it in wound surgery. During the past decade, experimental evidence has been furnished of the value of compression in such conditions as crushing injuries, burns, and other traumas.

The arguments upon which a compression dressing is used are briefly that tissues are ordinarily under a certain physiologic pressure. This pressure counter-balances the pressure of blood in the vessels, supports the arteries and veins going to and coming from a part, and maintains proper relationship between the intra- and extravascular fluids. When these pressure relationships are disturbed following trauma, fluid exchanges within the tissues are out of balance, and swelling occurs. The veins, without their customary external pressure, may dilate and the blood stagnate within them.

In the wounds of the hand this loss of fluid into the tissues leaves in its wake a hard swelling, which takes weeks or months to absorb and results in an extensive disabling fibrosis. Therefore, to prevent this swelling, the re-establishment of the proper pressure relationship is indicated as soon as possible following injury.

The support of the venous return by means of a compression dressing is another important function of the compression dressing. Many times we see a skin flap which has undergone necrosis, not because of the lack of arterial blood supply but because of the venous congestion which occurs.

The plastic surgeons have long emphasized the need for compression on skin flaps, not only to prevent swelling, but also to support the veins. Flaps which ordinarily should live may very well die if this support is lacking.

Dead spaces caused by tissue disruption, under avulsed flaps, et cetera, can be obliterated by a properly adjusted compression dressing. These spaces become filled with blood or serum which may take weeks to absorb and form excellent pabulum for bacterial growth.

Torn and injured tissues and tissues after operation tend to ooze blood and serum into the wound. This oozing may be controlled by properly applied compression. Severe arterial hemorrhage, on the other hand, will not be controlled by a pressure dressing unless it is applied too tightly.

If correctly applied, a compression dressing is soothing and relieves pain. This is partly due to

control of swelling and partly due to the immobilization which compression produces.

I can mention but a few of the conditions in which the compression dressing has proved to be a valuable adjunct to surgery of the hand. In many of these conditions it will make the difference between success and failure. After all operations on the hand, a compression dressing should be applied before the blood pressure cuff has been released. In this way, not only will the postoperative swelling be minimized but the oozing which will occur after operation will be largely controlled. As first aid for injuries of the hand, the dressing should be voluminous and compressive from the start so as to prevent the swelling which will occur between the time the wound is incurred and the time the patient receives definitive care. Closed injuries such as sprains and simple fractures which do not require operative intervention should be dressed in compression from the start, for the reasons noted above. Burns of the hand are best treated by splinting and a compression dressing. Flaps and free skin grafts are dressed with compression dressings. Granulating wounds such as occur after burns or other injuries respond to this treatment, often cleaning up these areas quite rapidly.

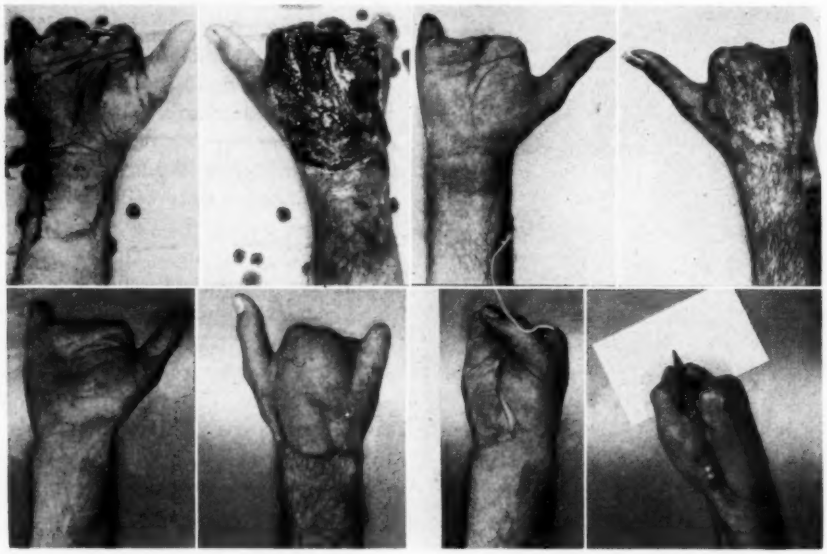

Fig. 4. Secondary closure of degloving injury and traumatic amputation. Patient was received for care six days after injury; the wound was clean and granulating and was immediately covered with a split graft. Later, as shown in the lower row, this thin graft was excised and a pedunculated flap placed over the dorsum.

Careful instruction is always needed when an intern is told to apply a compression dressing. Even after observing its application time after time, the new resident seldom applies a compression dressing correctly until he has had several weeks' experience. The dressing must be voluminous and made up of many layers of fluffed-up gauze or mechanics' waste, evenly applied over the entire part. Whatever the material used, it should be soft, elastic and absorbent. It must apply a uniform resilient pressure distributed evenly over the whole area to be compressed and must produce no constriction. It must be firm but not tight. It should cover the whole hand and lower forearm in case of most injuries of the hand, while if the lower forearm is involved, the dressing should go to the elbow or beyond. In applying the dressing to the hand the fingers must be separated by the gauze so that they are not compressed against each other and so that sweaty secretions will not accumulate between them. If a splint is incorporated in the dressings, as it usually is, it must be well padded to prevent the development of pressure areas. It is difficult to tell anyone how snug to make this dressing; one learns from experience. If large amounts of dressings are used, it is difficult to get it too

tight, but it is possible, especially if an elastic bandage containing rubber strands is wound on at full stretch.

Immobilization

In this day of early ambulation and emphasis on early resumption of function, the surgeon is apt to forget that injured tissues require rest. While it is true that following abdominal surgery the patient can frequently be allowed out of bed a few days after even the most serious operation, the surgeon who neglects proper splinting for injuries of the hand is courting disaster. There is probably no surer way of causing breakdown of incisions, rupture of sutured tendons and post-operative infections following surgery of the hand than to neglect to splint the hand afterwards for a sufficiently long period of time to permit the tissues to heal.

In what position should it be splinted; how much of the hand should be splinted; and how long should immobilization be maintained?

The position in which the hand should be splinted depends on the nature of the operation performed and the conditions present. In general, the ideal position in which to splint the hand is the *position of function*. This is the grasping position, in which the wrist is dorsiflexed about 45 degrees, the fingers flexed about 30 degrees at all joints and slightly seperated from each other. The thumb is swung around into a position of abduction and rotation so that its pad faces but does not touch the pads of the fingers. In this position even the slightest motion is sufficient to permit some function, and if the hand should become stiff, is the most useful position. Also, from this position the physical therapist or the patient can most readily restore use. In this position the collateral ligaments of the metacarpo-phalangeal joints and interphalangeal joints are stretched their longest and do not shorten and produce contractures.

The position of function should be used in every case of hand injury except those in which repair of tendons or nerves require relaxation in some other position. The position of function is an excellent one in which to immobilize fractures of the hand. Practically all fractures of the hand can be reduced and held in proper reduction by molding them into reduction over the proper splint and holding them there in the position of function with pressure dressings. Only in very rare instances does it seem indicated to use traction for this purpose. The possibility of reducing fractures of the hand on a firm splint makes it possible to apply a compressive dressing to prevent the post-injury edema and swelling which makes for so much disability.

Sutured flexor tendons must be splinted in relaxation with the wrist and fingers in flexion. Most of the relaxation should be taken up by flexion of the wrist, which may be brought up to 45 degrees. The fingers should not be so acutely flexed. The metacarpo-phalangeal joints should not be flexed beyond 30 degrees. Sutured extensor tendons should be splinted in extension, but here we must extend completely all the affected joints, otherwise, we will end up with tendons too long for proper function.

Muscles paralyzed by division of the motor nerves, should be splinted in relaxation so that the unopposed antagonists will not stretch and damage them. We are familiar with the proper splinting for radial nerve paralysis, but we forget that the small muscles of the hand may be paralyzed and they must also be protected by splinting. Thus, the interossei and lumbricales are protected by a splint which holds the metacarpo-phalangeal joints in slight flexion and holds the thumb in slight adduction. Where the median nerve is divided, the small muscles of the thenar eminence are prevented from stretching by holding the thumb in the grasping position, i.e., rotated and adducted around to face the finger pads.

The application of the splint should become as automatic at the end of the operation as the application of the dressing and should be kept in mind at all times when treating hand wounds and infections.

The length of time that the splint should be kept on will vary somewhat with the condition present. Roughly speaking, the hand should be kept splinted until the tissues have healed sufficiently strong to take over their function without support. While there is no doubt that splinting can be kept up longer than necessary, with resultant stiff joints, it is my feeling that in most cases stiff joints are due to inflammatory exudate and not to splinting *per se*. The usual hand injury without nerve, tendon or bone damage, which heals by primary intention requires splinting for but seven to ten days. Fractures of the hand are usually well enough consolidated in two weeks to permit removal of the splint once daily to allow

the patient to soak the hand in warm, soapy water and begin mobilization. After three or, at most, four weeks, the splint may be discarded.

Divided flexor tendons should be kept splinted without motion for three weeks, following which the splint is gradually straightened out over a period of from one to two weeks, during which time the patient may begin active use within the limits permitted by the splinting. In case of the extensor tendons, the splinting must be kept up about five weeks, since these tendons are more likely to be stretched by the more powerful flexors. Also, in case of the extensors, it is sometimes wise, after daily splinting has been discontinued, to have the patient wear the splint at night for several weeks, since the hand is normally held in flexion during sleep.

Paralyzed muscles should be kept relaxed as long as their nerve supply is lacking, or until some substitution has been provided for the muscle. This may mean wearing a splint for many months in case of the ulnar or median nerves. In these cases, the splints should be such as to permit the patient to carry on his usual activities and still wear the splint.

Follow-Up and After-Care

Fully as important as the initial surgery in case of injuries of the hand is the follow-up care of these patients. Failure to obtain satisfactory results after good surgical treatment is often due to errors in the postoperative management. Failure to maintain immobilization for a sufficiently long period of time accounts for many instances of wound breakdown or tendon rupture after repair.

The initial dressings are seldom changed before the fifth to seventh day, at which time it is well to discontinue the pressure dressing. At this time the suture line is inspected, and if any of the sutures seem to be too tight, they may be snipped. By the seventh to tenth day the sutures may be removed, after which the dressings are changed every second or third day so that sweaty secretions do not accumulate. In case of simple injuries the dressings may be left off entirely at the end of ten days and the patient instructed to soak his hand once daily for fifteen to twenty minutes to limber up the joints. In simple injuries a few days of daily soaking are enough to restore function to normal. In case of tendon repair, the patient must have the hand immobilized for a longer period of time, and the early soakings must be given the hand by the surgeon or his assistant. Only after the end of three weeks is it entirely safe for the patient to start his own daily soakings. The daily soak, a regular institution with us, is not a simple perfunctory washing of the hand, but requires about fifteen minutes of gentle washing in soapy water. The surgeon gives the first few soakings so that the patient "gets the idea" and learns how much he can do. Thereafter, he does this washing himself and is encouraged to massage the hand gently with the warm soapy water and a wash rag. This combination of heat and massage does wonders in mobilizing the hand and in restoring function.

At the end of three weeks following flexor tendon repair, the splint is straightened out somewhat and the patient is allowed to flex the fingers actively, but extension is limited by the splint. This straightened splint he wears for a week or ten days, at which time it is removed entirely, and his further care depends on the rapidity with which he regains function. In a good percentage of cases no formal physical therapy is required, only the daily soakings and the daily use to which the hand is put. If the patient's job is not too strenuous, he is encouraged to go back to work at the end of the fifth or sixth week. If no suitable work can be found for him, he is instructed to do odd jobs around the house, and we have found that dishwashing is a very valuable therapeutic adjunct.

Where skin grafts have been applied, dressings are done on the fifth or sixth day, at which time the silk overties are cut and the pressure roll is removed. Sutures about the graft are also removed, and the pressure and splint are again applied. Dressings are performed every second day and the pressure maintained for a total of fourteen to twenty days. When the grafted area is first completely exposed, the patient is cautioned against injuring the graft, often wearing a protective glove or mitten for awhile. The graft is sensitive to heat and sunlight, to which exposure should be very gradual.

Fractured phalanges and metacarpals may usually be dressed at the end of two weeks, and if other wounds permit, a light protective splint may be applied, which the patient can remove daily for washing. At the end of three weeks, it is usually possible to remove the splint entirely,

but the patient should wear the splint at night for another two weeks.

Operative Technique

A few details of operative technique are of importance. It is not possible to discuss them all, but they deserve mention since so much depends on a careful technique if the surgeon expects to obtain good results in surgery of the hand.

General anesthesia is practically always best for operations on the hand, since the surgeon does not feel so hurried and can work slowly and carefully. The blood pressure cuff which is applied to produce a bloodless field is very uncomfortable for the patient after the first few minutes under local anesthesia. Also, the need for enlarging incisions and wider exposure than may have seemed to be necessary at the start militate against the use of a local anesthetic.

A bloodless field is an essential to a careful operation. Without it the surgeon is seriously handicapped in locating the injured structures and in repairing them when found. The constant sponging that must be done when the field constantly floods with blood is not only time-consuming but traumatizing to the tissues. A bloodless field is best secured with a blood pressure apparatus applied to the arm loosely and covered with a bandage to prevent it from "popping out" when inflated. The arm is held up for a minute to allow the blood to run out of it, and the cuff is then rapidly inflated to 280 mm. Hg. It is kept up to this pressure until the surgeon has completed his cleasing and the excision of the devitalized tissue, and has identified and mobilized the structures requiring repair. The cuff is then deflated, and the wound is covered with a warm moist "lap" pad during the first few minutes of the reactive hyperemia which follows its release. The wound is then inspected, and all bleeders are caught and ligated with fine silk. The arm is again elevated, the cuff inflated, the operation completed and the compression dressing applied before it is finally released. We have never seen any trouble come from this technique, even though the cuff may be on for as long as two hours during the dissection and for well over two hours during repair and until the final dressing is applied. Higher pressures than that mentioned may well cause trouble, and the use of ordinary rubber tourniquets or pneumatic cuffs which produce very high pressures may lead to trouble.

Adequate exposure of the injured structures is necessary and is seldom provided by the wound itself. This is especially true in case of divided tendons which retract well up or down in the tissues and cannot be located through the exposure offered by the wound. To "fish" for tendons with forceps is poor technique, often unsuccessful, and even if the tendons are found, seldom is there enough space in the wound to permit a neat suture. Enlarging incisions are therefore usually required to afford adequate exposure with a minimum of retraction. The enlargement of wound must be done with some consideration. Too often a transverse wound across the wrist or finger is enlarged by a longitudinal incision straight across the center of the wound, producing a cruciate defect which may give good exposure but leaves a badly disabling scar. The nerves and tendons lie directly under this scar for its whole course and are certain to become adherent to it. The four corners of the scar are likely to become necrotic. Later on, as the scar contracts, it produces a flexion contracture of varying severity. If the result of the initial surgery is not successful, the surgeon who undertakes the secondary repair will find himself very much handicapped. The correct lateral incision may be impossible, and to correct the midline scar may entail the application of a pedicled flap. Enlarging incisions follow the same principles which govern elective incisions. The midline of fingers, wrist and forearm should be avoided because of the certainty of contracting scars. Longitudinal incisions on the fingers and forearm should be made along the sides, and if the volar surface is to be crossed, it should be crossed transversely. In the palm the transverse incision is also best, but incisions may follow the longitudinal creases at the borders of the thenar and hypothenar eminences. Incisions should follow as nearly as possible the natural folds of the skin, not necessarily in the creases, but parallel to them. The incisions should be planned so as to produce flaps of skin with subcutaneous tissue under them so that repaired structures lie against subcutaneous fat. When the incisions are deepened, care must be exercised in dividing the pulleys. Only when necessary should the retaining ligaments be divided, otherwise bowing may occur. If it has

been necessary to divide the pulleys, they should be repaired.

Gentleness in handling tissues has been stressed for many years, not only in surgery of the hand but in all surgery. In surgery of the hand, gentleness is an absolute necessity if the surgeon is to attain any sort of results at all. Not only must primary healing of the skin be secured, but the tissues beneath must be soft and without adhesions if function is to result. The tendons must not be handled roughly, squeezed with forceps or with rough gauze. Rough, forceful retraction may traumatize the edges of the wound so as to produce areas of necrosis of the skin and subsequent disturbance in healing and often deeper infection. For the same reason, the introduction into the wound of irritant chemicals is to be avoided, since they are almost certain to lead to exudate and scar.

Exact hemostasis must be secured. As vessels are encountered during dissection, they are caught in forceps and lighted with fine silk. At the time of the first deflation of the blood pressure cuff, the bleeding points not seen during the dissection are picked up and ligated. At the close of the operation the compression dressing is applied before the cuff is finally deflated so that the oozing which would occur from the freshly divided surfaces is controlled by pressure.

Fine sutures and ligatures are used so as to leave as little foreign material in the wound as possible at the close. We prefer the use of silk since it is very strong for its size and is very slightly irritant. Cotton and steel wire are also excellent for use in the hand. The main point is that sutures be as small as possible and still accomplish the job.

Secondary Repair

The matter of secondary repair of divided nerves and tendons of the hand cannot be gone into at this time. This, however, can be said: The surgeon who treats an acute injury of the hand in which he does not believe nerves and tendons should be repaired primarily should remember that secondary repairs are almost as good as primary repairs if the initial wound has healed by primary intention, or even if an early secondary closure was performed. He should not hesitate to omit nerve and tendon suture if the situation is not ideal.

PROPYLTHIOURACIL

(6-propyl-2-thiouracil.—$C_7H_{10}N_2OS$.—M. W. 170.226)

Actions and Uses.—Propylthiouracil interferes with the formation of thyroxin by the thyroid gland. It is useful in the treatment of hyperthyroidism, thyrotoxicosis and thyroiditis. It is of no value and should not be used in other derangements of thyroid activity or in conditions not associated with hyperthyroidism.

Since propylthiouracil does not inactivate or interfere with the action of thyroxin already formed and stored in the gland, the effects of propylthiouracil medication do not appear until this store of thyroxin has been utilized. It may take several days to several weeks for the signs of decreased thyroid activity to become manifest, particularly if the patient has received previous iodine therapy.

Not all patients experience a permanent remission following propylthiouracil therapy, and the duration of treatment necessary to secure permanent relief from hyperthyroidism has not been determined. On the basis of the available information, it can be recommended only that propylthiouracil be used for preoperative treatment or for those patients for whom operation is contraindicated. The wisdom of depending on propylthiouracil as a substitute for operative procedure can be determined only by following the results of investigations carried on for longer periods.

Propylthiouracil is capable of producing adverse reactions in some patients. The incidence and severity of these reactions are unpredictable, but they occur with less frequency than do those following medication with the parent compound, thiouracil. The severest complication of propylthiouracil therapy is granulocytopenia. Less severe reactions may include leukopenia, drug fever and dermatitis. The drug should be discontinued and appropriate therapy commenced immediately on the detection of signs of any of these complications.

Since the mild and the juvenile types of hyperthyroidism can frequently be controlled adequately by iodine therapy alone, propylthiouracil should not be used for these patients unless the safer form of therapy proves ineffective.

Dosage.—For severe cases of hyperthyroidism, initial doses of 50 mg. of propylthiouracil every eight hours appear to be effective in routine treatment, and 50 mg. twice daily in milder cases. Iodine should be administered for two or three weeks immediately before thyroidectomy.

The effective dosage of propylthiouracil should be continued until all signs and symptoms of the disease have been brought under control. Adequate maintenance dosage may best be established by determinations of the basal metabolic rate. *Patients should be instructed to cease medication and report to their physician immediately if any adverse symptoms such as sore throat, fever, coryza or malaise are experienced.*—New and Non-Official Remedies, J.A.M.A., 138:429 (Oct. 9) 1948.

CHRONIC SCHISTOSOMIASIS JAPONICA DIAGNOSED BY RECTAL BIOPSY

Report of Case

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PRACTICALLY all of the cases of schistosomiasis in the armed forces during the last war were acquired on the Philippine Island of Leyte during late 1944. Approximately 1,500 cases were treated while in the service, and it is estimated that an equivalent number, less severely infected on the average, went undiagnosed.[7] The latter would be expected to present the most difficult diagnostic problems, particularly when presence of ova in the stools is used as the criterion. There probably have been few new cases diagnosed in veterans to date. The present case is the first one seen at the Minneapolis Veterans Hospital. It illustrates the need for alertness to the possibility of schistosomiasis in a veteran who has been on Leyte. It also illustrates the difficulties inherent in the detection of the early chronic form of schistosomiasis japonica and demonstrates a useful technique for diagnosis.

Case Report

First Admission.—R. R., a twenty-nine-year-old white male farmer, was admitted to the hospital for the first time on September 30, 1947, complaining of recurrent diarrhea and right upper quadrant abdominal pain.

His first episodes of diarrhea occurred in November, 1944, following three weeks of frequent exposure in rice paddies, streams, and ditches on Leyte. He had high fever and severe diarrhea for eight days and was treated nonspecifically with temporary relief of his symptoms. However, he continued to have intermittent diarrhea once or twice weekly and was eventually hospitalized in a station hospital on Okinawa for forty-four days (Aug 12 to Sept. 25, 1945). During this hospitalization he had eosinophilia up to 36 per cent. Fourteen stool examinations were made and on one occasion cysts of E. histolytica were found. No other parasites of significance were noted. Proctoscopic examination was said to be negative. No statement regarding the size of his liver or spleen was recorded. He returned to his unit improved following treatment for amebiasis, but continued to have short bouts of explosive, cramping diarrhea, with eight to ten stools a day for periods of one to three days every two to four weeks. He noticed neither blood nor mucus in his stools and did not recall experiencing pruritus, urticaria, edema, or myalgia during the early course of his illness.

Following his discharge in December, 1945, he noted listlessness and gradual weight loss from 190 to 170 pounds. He fatigued easily but was able to carry on his heavier chores except during spells of diarrhea. One month prior to his admission he first experienced severe, persistent right upper quadrant pain and tenderness which was associated with anorexia. Activity intensified the pain. These symptoms persisted and he noted, in addition, profuse night sweats, recurrent diarrhea, and weight loss of five pounds. There was no nausea, vomiting, hematemesis, melena, dark urine, or jaundice.

He had a past history of jaundice at age eleven and yellow fever vaccination in 1942.

Physical examination on admission revealed a well-developed, well-nourished, six-foot white male weighing 165 pounds. His heart and lungs were normal. Blood pressure was 105/68, pulse 65. His liver was palpable 1 to 2 cm. below the costal margin in the midclavicular line and was soft, smooth, and exquisitely tender. There was percussion but no compression tenderness over it. The spleen was not palpable. Moderately enlarged, nontender lymph nodes were felt in the left axilla and in the inguinal regions. Rectal examination was negative. Neurological examination was normal.

Laboratory findings on admission were hemoglobin 15.2 gms. per cent and white blood count 7,350 with 42 per cent pmns., 42 per cent lymphocytes, and 15 per cent eosinophils. Four subsequent blood counts showed approximately the same total count and eosinophilia of 5, 6, 7 and 20 per cent. Sedimentation rate varied from 1 to 3 mm. per hour. Eight urinalyses were negative. Serology was negative. Ten stool examinations for parasites were made during the first four weeks of hospitalization and all were negative with the exception of the first two which contained whip-worm ova. Blood bilirubin was normal on repeated occasions. Eight urine examinations for bile were negative. Two-hour urine urobilinogen values varied from 0.52 to 2.81 Ehrlich units. Cephalin cholesterol flocculation was 3+, 4+ on admission and subsequently dropped to 2+, 2+ over a period of five weeks. Bromsulfalein (5 mg. per kilo dose) retentions on two occasions were 2.8 and 5.5 per cent in forty-five minutes. Routine blood agglutinations, including brucellosis and heterophile antibody titres, were negative. Chest x-ray, flat plate of the abdomen, and barium enema were negative. Proctoscopic examination revealed normal rectal mucosa. The electrocardiogram, which was normal on admission, showed depression of the T waves in the limb leads following a course of emetine.

Hospital Course.—The patient was afebrile except for a slight rise in temperature during the third to fifth

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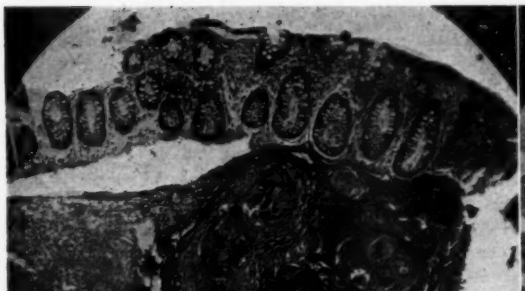

Fig. 1. Biopsy specimen from the superior valve of Houston. Low magnification showing submucosal pseudo-tubercles containing nests of Schistosoma japonicum and giant cells. The largest ova measure 60 x 120 micra, and most have thin highly refractile membranes. There is a moderately severe chronic inflammatory reaction surrounding the pseudo-tubercles.

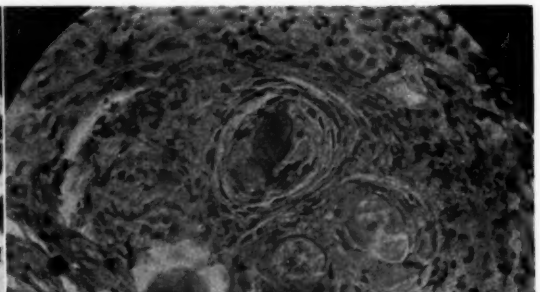

Fig. 2. High power magnification showing encapsulated ova within a pseudo-tubercle.

weeks when he developed an acute left salpingitis and catarrhal otitis media for which he was given penicillin. He was suspected of having amebiasis on admission and was given a course of emetine and diodoquin without effect on his symptoms or course. He continued to have pain and tenderness in the right upper quadrant and his liver increased in size slightly. His spleen became palpable, the enlargement reaching its maximum in the third week when it was 3 cm. below the costal margin. It was never tender. During the fourth week his liver and spleen began to recede and his symptoms improved. By the fifth week the liver was barely palpable, the spleen not palpable, and by the sixth week neither was palpable. There was no correspondence between physical findings and liver function tests. The patient was discharged at the end of the sixth week of hospitalization with the diagnoses of atypical infectious hepatitis and trichuriasis. No treatment was given for the latter because of the liver disease.

Second Admission.—By the time he had reached his home, after a jolting 120-mile bus ride from the hospital, he had recurrent symptoms with pain in the right upper quadrant, malaise, and weakness. He remained at home two weeks during which he noticed in addition enlargement of the lymph nodes in both femoral fossae, particularly the right, and associated weakness of his right lower extremity. He was readmitted to the hospital on November 26, 1947, at which time his liver was enlarged and tender 3 cm. below the costal margin and his spleen was palpable 5 cm. below the costal margin. A moderately enlarged lymph node was again felt in his left axilla in addition to large nodes palpable in the inguinal and femoral regions. Otherwise the examination was unchanged.

Laboratory findings this time revealed the hemoglobin and sedimentation rate to have remained essentially unchanged. White blood count range was 3,500 to 9,000 with pmns. 35 to 63 per cent, lymphocytes 30 to 51 per cent, and eosinophils 2 to 19 per cent. The average of nineteen white blood counts up to the time therapy was completed was 5,370. The average percentage of eosinophils was 13. Bromsulfalein retention was 2 per cent in forty-five minutes. Cephalin cholesterol flocculation was 1+, 2+. Cholesterol was 196 mgs. per cent with 127 mgs. per cent esters. Alkaline phophatase was 7 King-Armstrong units. Plasma proteins were total 7.8, albumin 4.5, and globulin 3.3 gms. per cent. From the time of readmission until completion of therapy with tartar emetic, a period of twelve weeks, thirty-five stools were examined for Schistosoma ova with negative results. Twenty-four of these showed whip-worm ova. The methods of examination for Schistosoma ova included (1) direct smears, (2) gravity sedimentation, (3) modified acid-triton-ether centrifugation, and (4) egg-hatching. Proctoscopic examinations before therapy were negative on four occasions. During three of these examinations scrapings of the anal crypts and rectal mucosa were examined for ova without success. On the fourth examination two punch biopsies were taken from each of the inferior and middle valves of Houston.

Urinalyses were normal. Chest x-ray was negative. Electrocardiograms taken during therapy showed progressive reduction in the amplitude of T waves in the limb leads and development of diphasic T waves in the chest leads. Within four days after completing therapy the T wave depression became less pronounced. A complement fixation test with Schistosome antigen was negative during the third week following readmission, and a skin test with mixed Schistosome antigen (obtained through the courtesy of Dr. Harry Most) was negative during the seventh week.

Hospital Course.—Following readmission schistosomiasis was suggested as a possible diagnosis and attempts were made to find the ova in the feces without success. Bone marrow aspiration at this time revealed myeloid-erythroid hyperplasia with moderate eosinophilia of the marrow. Biopsy of a lymph node in the left axilla showed benign hyperplasia. Two liver biopsies were done during the second and eighth weeks, both showing slight to moderate increase in the number of lymphocytes in the portal spaces and slight increase in the number of eosinophils. No definite diagnosis could be made from them. The patient's symptoms improved on bed rest. By the third week his liver and spleen had receded somewhat, being palpable 1 to 2 cm. below the costal margin. They were stationary thereafter until the ninth week, after which the liver could not be felt below the costal margin, the spleen remaining as before. The liver tenderness decreased progressively.

During the seventh week rectal biopsy was attempted at the suggestion of Dr. C. J. Watson, despite a normal mucosa. Four pieces of tissue were removed, one of which contained ova of Schistosoma japonicum (Figs. 1 and 2). Therapy with tartar emetic was instituted, a total of 444 c.c. of a 0.5 per cent solution of antimony and potassium tartrate (0.799 gms. antimony) being given over a period of five weeks, following the procedure of Most.[7] Toxic reactions were transitory pain and stiffness in the muscles, nausea, and depressed T waves in the electrocardiogram. By the time treatment was completed the patient noted appreciable relief from his right upper quadrant pain and felt stronger. Rectal biopsies were repeated upon completion of therapy, fragments being taken from each of the three valves of Houston. The fragment from the uppermost valve showed submucosal pseudo-tubercles with nests of encapsulated ova similar to the pre-treatment biopsy. The other two fragments were normal.

During a three-week observation period following therapy for schistosomiasis the patient remained asymptomatic. His spleen remained palpable 2 cm. below the costal margin. His liver was no longer tender. The white blood count, which had been depressed slightly, returned to normal levels, and the eosinophilia dropped from 18 to 5 per cent. His whip-worm infestation was successfully treated with leche de higueron. He was discharged during the fifteenth week of his second admission, a total of twenty-three weeks since he was first hospitalized.

Discussion

Clinical Course.—The course of schistosomiasis japonica is customarily divided into three stages of variable length.[1,2,7,11]

The *first stage* or incubation period begins with the penetration of the body by the cercariae and ends with the pairing of the mature worms in the mesenteric vessels. It generally lasts five to seven weeks.

In the *second or acute stage* the female worms deposit eggs in the small vessels of the intestinal wall from which some are extruded into the lumen, and others are carried into the draining lymph nodes and liver as well as other abdominal organs. This stage generally lasts about three to four months. The symptoms of the first and second stages overlap greatly.

In general, in addition to new findings, there is accentuation, during the latter stage, of the symptoms which began to appear during the incubation period. The findings that one may note during these periods are the following: local pruritus, urticaria, edema, cough; chills, fever, sweats, headache, lethargy; myalgia, arthralgia, rigidity on neck rotation; anorexia, diarrhea, weight loss, fatigue; abdominal fullness, pain, and tenderness; enlarged tender liver, splenomegaly; eosinophilia, yellow nodules in rectosigmoid; jaundice, anemia, leukocytosis. In addition lung infiltrations, skin lesions, neurological complications, and vascular occlusions in the toes are occasionally encountered.

The *third or chronic stage* is a period of continued tissue destruction and proliferation. It is properly subdivided into early chronic and late chronic periods. The former is a prolonged interval of gradual tissue fibrosis about which relatively little is recorded in the literature. The latter appears about three to five years after the onset of the disease and is characterized by the development of hepatic cirrhosis and its consequences; splenomegaly; thickening and fibrosis of the intestinal wall, mesentery, and omentum; papilloma formation; and general deterioration and debility.

The clinical course as classically described has been based by and large on observations in native populations where multiple parasitic infestations, reinfection, and nutritional deficiencies are common. It seems logical to expect that the course among healthy American soldiers who were usually exposed a relatively short time and whose nutrition was carefully maintained should be modified appreciably, particularly in those treated early. Such was the case in a large group of patients seen by Mason et al[6] during the early chronic stage of the disease, about six months after the acute process had subsided.

The present case was diagnosed three years after exposure and represents a later phase of the early chronic stage of the disease. Despite the prolonged course, recurrent clinical manifestations, and lack of treatment, he appeared well-nourished and, with the exception of the periods

when diarrhea recurred, was able to keep up his farm duties. Liver function studies at the height of his illness showed but slight abnormality, and two liver biopsies showed essentially normal tissue with slight evidence of chronic inflammation in the portal spaces. X-ray studies of his gastrointestinal tract were normal. Thus he presented fewer abnormalities than one might have anticipated at this time from the textbook descriptions of the disease. It appears not unlikely that the progress of the pathological process in Americans may be retarded, prolonging the early chronic phase of the untreated disease several years beyond its usual duration as classically described. With this in mind one is less likely to rule out a potential case because the abnormalities present are not commensurate with the duration of symptoms.

Rectal Biopsy.—Diagnosis of schistosomiasis has until recently depended upon finding the ova in the stools. This is at best a tedious process. In the chronic stages and mild infections there are characteristically few ova in the feces, and diagnosis by this means is particularly difficult. Serological and skin tests have been developed but as yet are of lesser value. A recently developed procedure that holds great promise is the rectal biopsy technique which has been found of value in Schistosoma mansoni infestation. The procedure was originated by Ottolina and Atencio[9] in 1943 following the demonstration that the highest incidence of schistosomiasis at autopsy was obtained by examining digested tissue from the upper half of the rectum. They applied this to patients by taking biopsies of rectal mucosa from the first (inferior) rectal fold, and found that of 140 cases whose stool examinations were consistently negative for ova, 14 per cent were positive on biopsy. Their procedure consisted of digesting the biopsied tissue fragment with 4 per cent KOH while incubating it at 60 to 80° C. The digested material was then centrifuged and the sediment examined for ova. Rincon-Urdaneta,[10] using the same procedure, found positive rectal biopsies in 42 per cent of 128 cases. Geib, Sher, and Cheney[3] applied this technique to 46 Puerto Rican patients. Thirty-four of these patients had been untreated, and twelve had been treated with 45 c.c. of fuadin one week prior to examination. The relative percentages of positive results by biopsy and stool examinations are listed in the following table:

	No. Cases	*Biopsy*	*Stool*
Untreated	34	50%	29%
Treated	12	67%	8%
Both	46	54%	24%

Hernandez-Morales and Maldonado[4] modified the technique by biopsying the first rectal valve, compressing the piece of tissue between two microscope slides, and examining it under low power. They studied 138 cases of Schistosoma mansoni infection including 50 untreated and 88 treated patients. The results of biopsy were compared with stool examinations by an acid-ether concentration technique and the following relative percentages of positive results were obtained:

	No. Cases	*Biopsy*	*Stool*
Untreated*	50	100%	42%
Treated	88	70%	18%
Both	138	81%	26%

*In two instances stools were not examined, therefore 42 per cent is based on 48 cases, 26 per cent on 136 cases.

In 1947, Ottolina[8] reported on a similar method of direct examination in which the tissue fragment is immersed in fresh tap-water for three to five minutes making it more transparent (by dissolution of hemoglobin) and allowing more adequate visualization of ova when the tissue is compressed between two slides.

To date, no reports have appeared describing the efficacy of rectal biopsy in chronic Schistosoma japonicum infection. It is reasonable to anticipate good results, however, in view of the demonstration that "yellowish nodules" (containing nests of ova) on the mucosal surface of the lower sigmoid and upper rectum are commonly found in the acute stage of schistosomiasis japonica.[2,5] Johnson and Berry[5] found the yellow nodules on sigmoidoscopic examination in 67 per cent of sixty-three patients suffering from acute infections. The nodules were small, firm, 1 to 3 mm. in diameter, and occurred in clusters of three to twenty-five beneath the mucosa. They were most abundant at the rectosigmoid junction, and they extended up into the lower sigmoid and down 4 to 5 cm. in the rectum. Biopsy of these nodules revealed clusters of ova beneath the mucosa. Presumably many of these ova become trapped in the tissues by the proliferative reaction they stimulate.

In the present case, nests of Schistosoma japonicum ova were found surrounded by dense concentric fibrous tissue (pseudo-tubercles) beneath the mucosa in the stained sections, though the entire mucosal surface appeared normal on sigmoidoscopic examination. Biopsies were taken initially from the middle and inferior valves of Houston.

the positive one (of four) coming from the former. Following therapy with tartar emetic biopsies were repeated, specimens being taken from the superior, middle, and inferior valves. The biopsy from the uppermost valve was positive; no organisms were found in the other two. The presence of ova in the upper valves and not in the lower is consistent with the findings in the acute cases in whom the greatest concentration of yellowish nodules was found at the rectosigmoid junction, the numbers decreasing below that point. It seems advisable therefore in the case of Schistosoma japonicum infections to secure the tissue fragment from the upper valves of Houston or the rectosigmoid region, rather than the inferior valve as recommended by Hernandez-Morales and Maldonado in Schistosoma mansoni infections. The particular method of examining the tissue may vary. Direct examination of the compressed unfixed tissue has the advantage of simplicity and enables one to differentiate live from dead ova easily. Stained sections allow more accurate delineation of tissue histology, and minimize the likelihood of overlooking light infections where only few ova are present. This presupposes that the entire fragment is sectioned and examined. A given biopsy specimen may be examined to good advantage by both methods.

Summary

1. A case of chronic Schistosoma japonicum infection, which was first diagnosed by means of punch biopsy of a valve of Houston, is presented.

2. The possible alterations in the time sequence of the pathological changes of schistosomiasis japonica in the American soldier are discussed.

3. The published articles on rectal biopsy in the diagnosis of schistosomiasis are reviewed, and the rationale for its use in chronic Schistosoma japonicum infections is presented.

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OCCUPATIONAL THERAPY COURSE APPROVED

The American Medical Association Council on Medical Education and Hospitals has now approved the University of Minnesota's course in occupational therapy.

Organized in 1946 in the physical medicine department of the medical school under the direction of Miss Borghild Hansen, the course is designed for the training of occupational therapy technicians.

Bachelor of science degrees in occupational therapy were awarded last June to twelve students constituting the first class to complete the course which requires four and one-quarter years of classroom and technical training. Application for approval of the course by the council was made upon the graduation of the first class.

Before the organization of the course in the medical school, a pre-occupational therapy program was offered in the University's college of science, literature and the arts.

At the University of Minnesota Hospitals, the occupational therapy division maintains a clinic for hospital patients and out-patients as well as a bedside occupational therapy service for those unable to come to the clinic. An extensive occupational therapy program is also available to psychiatric patients.

PROTECTIVE VACCINATION AGAINST TUBERCULOSIS, WITH SPECIAL REFERENCE TO BCG VACCINE

JOSEPH DAVID ARONSON, M.D.

Associate Professor of Bacteriology, Henry Phipps Institute, University of Pennsylvania
Philadelphia, Pennsylvania

For twenty-five years, BCG (Bacillus Calmette and Guerin) has been widely used to increase resistance to tuberculous infection among population groups in which there is a high incidence of tuberculosis and among persons whose occupation, the care of the tuberculous, increases their danger of contracting the disease.

In spite of its widespread use, BCG has not received universal acceptance due to the fear that the culture is not a virus fixe, as claimed by Calmette, but that it might regain its virulence. The innocuousness of the BCG vaccine for man is proved by the fact that not a single unequivocal case of tuberculosis can be attributed to its use. Since the first results of BCG were reported in 1921, more than ten million people, largely in the Scandinavian, European and South American countries, have received the vaccine as a protection against tuberculosis.

The value of BCG vaccine in increasing resistance to tuberculous reinfection has been investigated under carefully controlled conditions among some Indians of the United States and Alaska, in a study directed through the U. S. Office of Indian Affairs and the Henry Phipps Institute, University of Pennsylvania. Freshly prepared BCG vaccine was administered intracutaneously to 1,551 American Indians ranging in age from less than one year to twenty years and to 123 newborn infants. At the same time 1,457 Indians of comparable age and living under the same conditions received an intracutaneous injection of sterile physiological saline and served as controls. One hundred and thirty-nine newborn infants also served as controls. No untoward local or general reaction followed the injection of the vaccine. In no instance did the regional lymph nodes ulcerate.

The original group of vaccinated and control were followed over a period of from nine to eleven years by means of tuberculin tests and roentgenograms of the chest, while the group of "newborn" infants were similarly followed for from six to eight years. The vaccinated cases were observed for a total of 16,406 person-years and the controls for 15,207 person-years. The mortality rate from all causes was 3.1 per 1,000 person-years of observation for the vaccinated and 7.2 for the controls. Among the 1,551 BCG vaccinated there occurred a total of 55 deaths, including 6 deaths from tuberculosis. Among the 1,457 controls there occurred a total of 109 deaths, including 53 deaths from tuberculosis. The mortality rate from tuberculosis per 1,000 person-years of observation was 0.4 and 3.5 for the vaccinated and controls, respectively.

Among the controls, the death rate from tuberculosis was highest among the males in the fifteen to nineteen and twenty to twenty-four year age group and in the females in the ten to fourteen and fifteen to nineteen age group. It was approximately twice as high among the females as among the males. Among the 123 newborn infants who were vaccinated and observed for from six to eight years, seven have died, none from tuberculosis. Among the 139 newborn controls fifteen have died, four of them from tuberculosis.

The tuberculin reaction became positive one year after vaccination in 19.3 per cent of cases and has remained at approximately the same level throughout the course of this study. Among the controls the tuberculin reaction became positive in 12.7 per cent within one year after the initial negative reaction, and there has been a constant and gradual increase in the percentage of the controls reacting to tuberculin. Roentgenologically demonstrable lesions having the characteristics of primary tuberculosis occurred in twenty-two of the vaccinated and in 120 of the controls. Minimal lesions of reinfection type, progressive lesions and miliary and extrapulmonary lesions of tuberculosis were found in twenty-one of the vaccinated and in ninety-three of the controls.

Abstract of the fourteenth annual John W. Bell Tuberculosis Lecture. delivered before the Hennepin County Medical Society, May 3, 1948.

THE NINE BILLION

The April issue of the *News Letter* carried a short note on the whereabouts of some nine billion in social security funds. The American Bar Association has recently shed a bit of light on this whereabouts. An A. B. A. resolution (American College of Radiology News Letter, June, 1948) reveals "(1) That 99.5 per cent of the funds thus far accumulated under the Act have been spent on public projects, and that special non-negotiable Government obligations have been substituted 'for 86.26 per cent thereof.' (2) That 'such part of such sum as may be necessary to meet extraordinary demands which may arise in the future will of necessity have to be raised by the sale of negotiable bonds or by the imposition of taxes to redeem the non-negotiable obligations.'"—*News Letter,* Council on Medical Service, A.M.A., August 12, 1948.

History of Medicine In Minnesota

NOTES ON MEDICINE IN FREEBORN COUNTY, 1857—1900

ANDREW GULLIXSON, M.D.
Albert Lea, Minnesota

(Continued from November issue.)

Dr. Frank A. Blackmer was born at Amherst, Ohio, January 16, 1846. He came to Freeborn County with his parents in 1856. They located on a part of what is now known as Blackmer's addition to the City of Albert Lea. He aided his father in driving his ox teams from McGregor, Iowa, at that time the terminus of the nearest railroad, across the prairies to their new home. He was then ten years of age. He found plenty of gravel in his diet as a youngster, and continued to find it there up to his early manhood. He began his schooling at Amherst, Ohio, and attended the public schools of the then struggling village of Albert Lea.

At the age of twelve, two years after his arrival here, while working in the fields one day, he came to the conclusion that he would strike out for himself, and hanging his scythe in a tree, he came to town to get work. He did odd jobs and soon accepted a position with the year-old newspaper, *Southern Minnesota Star,* begun in April, 1857. Here he learned to set type. Shortly thereafter, probably in 1859, Dr. A. M. Burnham needed someone to publish his *Freeborn Springs Herald* at Itasca, and secured young Master Blackmer for the position. But Dr. Burnham's hopes and aspirations of Itasca as a county seat failed to materialize, and young Blackmer with his conniving young partner loaded the fonts of type and the hand-press by night and carted them to Blue Earth and founded the *Blue Earth Post,* which continues still to be one of the most influential journals of the state. Dr. Burnham was paid $200 about two years later. He was paid at night, and probably in the dark of the moon.

In 1862, at the age of sixteen, young Blackmer enlisted in Company C, Fifth Minnesota Volunteers Infantry, and with the rank of Orderly Sergeant, was sent with his company to the frontier to protect settlers from threatening Indian outbreaks. On August 22, 1862, his company participated in the battle of Ft. Ripley, and there young Sergeant Blackmer received a severe gun-shot wound involving the face, jaw, and tongue. In consequence of this disability, he was discharged in October of the same year. The ball was removed by Assistant Surgeon A. A. Ames of Minneapolis. This wound, with the resulting scars on his face and tongue, was the cause of much discomfort to him during his life. After his discharge, hospitalization, and convalescence, he went to Chicago and during the winter worked as a compositor on the morning papers. In 1863 he entered the academic department at Oberlin College, Oberlin, Ohio, and sawed wood, set type, and did other work to pay tuition and board. He had already decided to study medicine, and while at Oberlin he spent some time reading medicine in the office of one Dr. Bruce. After his courses at Berlin he became a student at Cleveland Medical College, Cleveland, Ohio. After graduating there in 1868, he returned to Albert Lea, married a Miss Prescott, and became a partner of Dr. Wedge, both in Dr. Wedge's drugstore and in his medical practice. Within a year, Dr. Blackmer's young wife died, and he went to Blue Earth and worked on the paper he had

founded there. Later he went to Jackson, Minnesota, acquired lands, and farmed. But fortunately for Freeborn County, the grasshoppers forced him to discontinue this venture. He returned to Albert Lea October 15, 1872, married Frances E. Wedge, a cousin of Dr. Wedge, and began in earnest a highly successful medical practice that continued until his death July 11, 1900.

Dr. Blackmer had one son, Ray, a daughter, Anna, and four brothers: Heman, a lawyer; Henry and Loren, farmers; and Nelson, who died young. He was a devoted husband and father and a loyal comrade and citizen. He was energetic, ambitious, and generous. He loved his fellow men and none were denied his services when requested. He was particularly kind and helpful to boys and young men.

"Dr. Blackmer was one of the talented, successful physicians and surgeons of the state. As a surgeon, he became eminently adept and modern in his methods. In performing an operation he was seemingly relentless, yet he was at all times sympathetic and gentle as a woman."—*Standard,* July 11, 1900.

"Dr. Blackmer will leave for Washington, D. C., as a delegate to the annual convention of the American Medical Association. This is an honor well deserved and one which the genial doctor will improve in the interests of his noble profession."—*Standard,* April, 1884.

"In driving across the lake, following the course of travel, the ice suddenly broke under Dr. Blackmer's team, with horses and sleigh sinking in about five feet of water. He narrowly escaped by jumping, while his horses went under. Help was obtained and the team was rescued."—*Enterprise,* February, 1884.

The following was told by one of his then youthful friends who later became a dentist:

"Walking with Dr. Blackmer one morning an anxious mother rushed toward them crying, 'Come quick, my daughter is dying!' One look told the story. The doctor pulled out his jackknife, wiped it on his boot, and readily performed the urgently needed tracheotomy. The youth held a spoon in the trachea while the doctor whittled a tube from a spool, inserted it into the trachea, and tied it with a cord around the neck. Results: good."

"Dr. Blackmer took a span of horses on a bad debt. The horses had killed the husband of the woman who owned them, in a runaway last spring, and so he was on guard and watchful in managing them. As soon as they were driven into the street he found that he had underestimated the viciousness of the brutes. They ran fiercely and as he was unable to hold them in a turn, the buggy was hurled with terrible force. The doctor and his companion were severely injured—the doctor now with his leg in a cast, and his companion unconscious."—*Standard,* June, 1893.

"Dr. Blackmer's life was most active. He was a successful business man and financier, and accumulated a handsome fortune."—*Standard,* July 11, 1900.

"Dr. Blackmer's keen interest in medicine and surgery prompted his regular attendance at state and national medical society meetings. He also traveled a good deal and took clinical trips. In November, 1890, together with his wife, he sailed for Europe, and after a short tour of France and Italy, he spent the winter in clinical work in London. He wrote as follows, from London: 'We are attending clinics all the time and do not have time to see anything unless it comes in our way as we pass from one hospital to the other. I have seen more surgery that I can think of. We are observing thirty cases of Koch's treatment. It seems to help in lupus, but in the acute consumption of the lungs is very uncertain. It seems to help some cases of tuberculosis of the joints. I can see that the winter is going to be very busy, but very profitable. There is no end of surgery. I saw nine or ten operations on the eye at Mowesfield hospital in the forenoon, and afternoon saw operations for the radicle cure of hernia at Guy's hospital. After surgery, ward walks reveal all manner of surgical diseases and procedures. We are treated with the greatest cordiality and good fellowship'."—*Standard,* December 16, 1890.

"Dr. Blackmer was one of the best known pioneers of southern Minnesota by reason of his medical attainments and army record. He had not been very well for several years, but not until about a month before his demise, did he go to Chicago for consultation and diagnosis. Dr. J. B. Murphy, among others, agreed that his ailment was deemed to be due to gall stones,

and an operation was declared to be imperatively necessary. He anticipated fatal results, arranged his affairs, and entered Northwestern hospital under Dr. Moore, who operated July 3. He died July 11, 1900. His death was a great loss to the community and to the profession in which he was highly distinguished. A large concourse of old settlers, friends, old soldiers, and members of the medical profession gathered at the funeral, and during that hour, business in Albert Lea was suspended."—*Standard,* July 18, 1900.

J. F. Kelsey appeared April 20, 1865, with the following card:

"Go tell the world these blessed things; yes, be sure your patrons hear, that henceforth I enter my name with the laity of Freeborn County to labor in the field of true medical science, embodied in the various departments of natural, economical, and metaphysical science, to the elucidation, prevention, and cure of diseases, which is, in fact, the highest development applied to the noblest temporal objects, namely: the prevention and alleviation of human suffering and the prolongation of human life. Hence, I offer my services to the people of this vicinity who are so unfortunate as to be afflicted with disease, as an intelligent and efficient helper and guide of nature, in regaining their natural standard of action, or what we call health. Their patronage is solicited. Truly, J. F. Kelsey, M.D."—*Standard,* 1865.

This colorful card appeared only a few times and is the only contact found. Where and when that insatiable enemy of immortality caught up with him is not known.

Dr. William Henry Smith, a physician for nearly forty years, and an army surgeon, was born in Denmark, Lewis County, New York, March 9, 1815. His parents, Selah and Catherine (Tisdale) Smith, were classed among the agriculturalists, the father being one of the first settlers in that part of the Black River country, and died when William was thirteen years old. From that date the son took care of himself. He was educated at common and select schools, taught six winter terms, beginning at the age of nineteen and receiving eight dollars a month and board, for the first season. The rest of the time he worked on farms and attended select schools. At the age of twenty-four he commenced reading medicine with Dr. Elkanes French, of his native town, and attended the last course of lectures held at Fairfield, Herkimer County, before the medical college was moved to Geneva. He received from the authorities of Jefferson County a certificate permitting him to practice, which he did for four years at Pamelia, Four Corners, in that county.

In 1846 he moved to Beaver Dam, Wisconsin, and practiced there for twenty years, except when in the army. In 1856, he attended a course of lectures at Rush Medical College, Chicago, from which he received his diploma. In 1862 Dr. Smith went south as surgeon of a Wisconsin artillery regiment. At the end of one year, he was transferred to the same position in the twenty-eighth Wisconsin Infantry and served three more years. During nine months of this time he was post surgeon at Pine Bluff, Arkansas. He was a very patient man and was very attentive to the wants of the sick and wounded. While in the South he contracted a disease from which he suffered more or less for a long time; and in 1866, thinking a change of climate might be beneficial, he went to Fulton, Missouri, practicing when he had sufficient strength.

In 1873, much improved, he returned to the North and settled at Albert Lea. Here he had a good practice and an excellent standing and held the office of county coroner. When at Beaver Dam during the administrations of Presidents Taylor and Fillmore, he held the office of postmaster. A Whig in early life, with Free-soil tendencies, he naturally drifted into the Republican ranks, where he is still found. For the last twenty-five years he has paid very little attention to politics except to vote. His leisure time is given mainly to medical studies.

On February 22, 1843, he was married to Miss Louisa M. Stevens of West Mar-

ginsburg, Lewis County, New York. They had three children. A son, Selah H., was accidentally killed on the railroad at Cherokee, Kansas, in January, 1874. Mary is the wife of Jasper J. Bond of Albert Lea; Frances E. and Charles Henry also both reside at Albert Lea. (*Freeborn County History,* 1882).

"Dr. Smith has resigned his office as coroner of Freeborn County, and his many friends will regret to learn that he has decided to remove from here. He will go to Wentworth, Dakota Territory, where his son resides and where he has valuable farms. He will also practice his profession there and undoubtedly will do well, for he is a physician of superior abilities and judgment, and will carry with him the high repute which he bares in all regards."—*Standard,* August 5, 1885.

Dr. George E. Moon practiced at Geneva a short time in 1869. Together with Dr. F. A. Blackmer and Dr. E. S. Gibbs, he read medicine with Dr. A. C. Wedge in 1867. He attended Cleveland Medical College and was a graduate physician and surgeon from there in 1869. After his short stay at Geneva he moved to Yankton, Dakota Territory. He made many friends there and was considered one of the best physicians and surgeons in Dakota Territory. "Consequently the town was considerably excited one evening in January, 1884, when he announced to his wife that he had deliberately taken a large dose of morphine, but was not going to die with his boots on. He began to pull them off and told his wife to get him a clean shirt. A physician was called, but he died the next day."

Charles W. Ballard was born in New York City in January, 1826. He attended boarding schools in New York and New Jersey. In 1847 he began the study of medicine at Washington Medical University of Baltimore and the College of Dental Surgery there and in 1850 graduated from both institutions. He married Miss Anna E. Harris the same year.

He was a member of the state senate for two terms, taking a decided stand against slavery. He then located in North Carolina and practiced his profession there for ten years, after which he returned to New York and Connecticut, where he engaged in business. In 1868 he went to Florida for his health, remaining there for two years. In 1870 he came to Freeborn County and purchased lands within and near the borders of Albert Lea. His interests were entirely in real estate, horticulture, travel, and writing his observations. He was a well-educated gentleman of good judgment and much wisdom and an outstanding citizen, benefactor, and friend. He did not practice his professions at any time in Albert Lea. Later in life he returned to Sarasota, Florida, where he died.

Dr. Tilly Peabody was an herb doctor, not a medical graduate. He came to Freeborn County in the early days, probably in the late 1860's. Records show that in 1875, he homesteaded on the southeast quarter of section thirty-five, Alden Township. He practiced in the southwestern part of this county and the adjoining Winnebago County in Iowa. Nothing concerning him is found in the newspapers or pioneer histories. Rumors had it that he was a scion of a prominent family in the East and that a wealthy sister made trips to this section, endeavoring to have him return. Two old people, now past the age of ninety years, remember him as "a kind doctor who did a lot of good." They tell that, with his wife, he would roam the Bear Lake woods, collecting in season the various roots, herbs, and leaves from which he made his own medicines, salves, and plasters. He traveled on horseback. Perhaps it was he of whom a pioneer Iowa doctor related the following incident to the writer over forty years ago.

"The doctor, when answering a call found his patient suffering from urinary retention, and not having the necessary catheters in his meager saddlebags, cut a suitable stem from a castor-bean stock, scraped it down to its well lubricated smoothness with his jack-knife and relieved his patient successfully."

His wife evidently died, as his last known abode was in a dugout shared with a Norwegian family in Winnebago County, Iowa. The only son of that family, now an old man, resides at Lake Mills, Iowa, and is known as Peabody Nels. Dr. Peabody died in 1887 and was buried in Bear Lake Cemetery.

Dr. E. M. Gibbs was born at Rome, Bradford County, Pennsylvania, in 1847. His father and family were early pioneer residents of Freeborn County, located at Geneva. He attended schools at Albert Lea, and in 1867, together with Dr. F. Blackmer and George E. Moon, read medicine with Dr. A. C. Wedge. In the spring of 1869, he graduated from Cleveland Medical College and later the same year announced the beginning of practice at Geneva. "He brings into the profession the benefits of his careful reading and exemplary habits."—*Standard*, 1869. He practiced at Geneva only one year and then moved to Monticello, Minnesota, where he was in active practice for many years until he died from a cerebral hemorrhage in 1922 at the age of 75. He was buried in the family plot at Geneva.

Dr. Alvin H. Street was born in Orange County, New York, in April, 1833. He was one of two sons born to Chapin and Dolly (Ness) Street. His mother died in New York. His father, a school teacher and a large landholder, was an imposing aristocrat, who later moved with his family to Hebron, Illinois, where he acquired large land holdings and resided until his death.

Dr. Street attended the academies at Albion and Kerryville, Illinois. He subsequently graduated in both medicine and dentistry in his native state and practiced there until he was thirty-six years of age, when he decided to try his fortune in Minnesota. He located at Albert Lea in 1869, paying most attention to medical practice but keeping a hand in dentistry at all times. He disliked the trials and hardship of pioneer medical practice and in 1876 returned to New York for postgraduate work in dentistry. He returned with equipment for making dentures, introduced "laughing gas" for use in extractions, and no doubt was well qualified to do creditable work in that field. But his interests gradually shifted elsewhere. He became neglectful of his office and his appointments and gradually faded out of both of his professions. He never married. He died at the home of his niece at Alden in 1914 and was buried in the family lot at Hebron, Illinois.—*Freeborn County History*, 1911.

Dr. Street was an odd and eccentric man and held no appeal for the ladies. He was a vegetarian and always carried crackers and nuts in his pockets. He was scrupulously clean but dressed in shoddy clothes. He would walk out to his nearby farms, and in season would remove his foot wear in order to walk in the mud. Also in season he would take to the deep clover fields, disrobe, and take sunbaths. He became interested in agriculture and spent the winter of 1890 at the agricultural college. His library was filled with books and pamphlets on the subject.

Dr. Street was an honorable, upright, honest gentleman. He had a keen sense of values. He bought and sold lands and town properties, loaned money, and became quite wealthy. He was a boyhood schoolmate of the great Pullman, in Orange County, New York. He called himself a paroled Methodist, having acquired that status by attending a dance at the age of fourteen. He never returned to the fold but gave generously to the church, besides making a gift of $10,000 to the Albert Lea Ladies' College. If any notice appeared in the newspapers about his gifts, he

would immediately cancel them. After the year 1900 he lived with his tenant on his farm near Alden. He then began to travel a great deal. He made frequent trips to New York and to Arizona for his health. He owned a fine store building on Albert Lea's broadway, but when he died the executors of his will could not for some time find his safe containing his deeds and papers. Later it was found in a dingy corner on the upper floor of a nearby building. He may not have contributed much to pioneer medicine but he was an honest, honorable friend and citizen.

Dr. John H. Froshaug located at Albert Lea in 1871 and practiced here until 1877. Nothing can be found concerning his birthplace, early education, or medical training. He was evidently of Scandinavian parentage. He was well regarded, as the following news item indicates:

"Dr. John Froshaug had a lot of friends in town that would have been glad to have seen him retain his office, a small one which he owned and was furnished with all modern equipment, including a mortgage. Money, the root of all evil, was used to root him out; and a man on an independent ticket, with plenty of money, sold him out."—*Enterprise,* 1876.

"Dr. Froshaug associated with Dr. Blackmer in the drug business, drugs, chemicals, and patent medicines."—*Enterprise,* May 18, 1876.

In July, 1877, he moved to Lake Park, Becker County, and in 1879 was a delegate to the Republican State Convention from that county. Later he moved to Twin Valley and died there June 20, 1889.

R. D. Barber.—The following account is given of one R. D. Barber:

"At an early day (1871), a man named R. D. Barber, calling himself a doctor, located in the village of Alden and commenced 'peddling pills.' He remained less than a year, as he was unpopular, and then left, locating at some point in the southwestern part of the state, where he again made himself odious by transporting a brother (who, he insisted, was crazy) to an insane asylum and then charged an enormous bill for his services. The bill was paid but gave him the reputation he deserves. His whereabouts at present is a mystery, to the satisfaction of all who knew him."—*Freeborn County History,* 1882.

Dr. Sylvester S. Bedal was born at Kensington, Canada, September 10, 1847. Nothing is known of where he received his early education, but evidently it was classical and extensive. When he went to Chicago is not known, but he was for three years a student at the Chicago Medical College, including 1871, at the time of the great fire there. He received his M.D. degree from this college and located at Albert Lea, May 30, 1872. He practiced here until September, 1874, about two and a half years. A very modest card appeared in the newspaper announcing "S. S. Bedal, Physician and Surgeon. Office over The Red Drug Store." No one now living here remembers him. Except for the newspaper files containing reprints of three letters received from him in 1874, this young pioneer physician, apparently a "gem of purest ray," would have been lost to our record.

Under appointment from the State of Minnesota as a candidate for Assistant Surgeon in the United States Army, he went to New York City, passed the examinations, and served from September 17, 1874, until his discharge in 1877. Information as to his place of birth and death, his medical education and place of graduation, together with data on his army service, came from the files of the Adjutant General's office. He must have been a quiet, unassuming, well qualified physician and surgeon and, too, a gracious, gallant, and lovable character.

In his letter dated August 23, 1874, he speaks of a day and night of jolting on the train that brought him to Chicago and remarks about the wonderful progress

in rebuilding after the fire. Then two nights and a day brought him to New York City. He writes:

"I am visiting places of interest every day but more especially such as interest me professionally, as the prisons, hospitals, and asylums on Blackwell and Ward islands, and public libraries, museums of anatomy, medical colleges, et cetera, and find them to be excellent sources of instruction."

In a letter dated September 24, 1874, in which he speaks about his examinations before the army medical board, he says:

"The manner of conducting examinations gave me a high opinion of the professional ability of the medical corps of the United States Army. The recorder conducted me to a private room and caused me to certify on my honor as to my age and my mental and physical condition. Being ushered into the examining room of the full board, consisting of five officers, uniformed in cavalry rig, I was politely invited to occupy a vacant chair in the circle and was addressed by one, somewhat after the following manner: 'Doctor, how long have you been in practice?' 'In what part of Minnesota have you lived?' 'Is that much farther north than New York?' I gave the latitude of both places. 'How low have you known the mercury to be there?' 'Why is mercury used in constructing a thermometer?' 'Explain the principle of contraction.' I answered these successive questions to the best of my ability, alluding to the contraction and expansion of bodies by cold and heat. 'What do you call the process of ascertaining the relative densities of bodies?' 'How would you find the specific gravity of bodies lighter than water?' 'And of liquids?' This manner of asking questions continued until I was taken through natural philosophy, mathematics to logarithms, and the Latin language. The next examination commenced with ancient Greeks, Persians, Babylonians; and they asked me questions up to the present time, English composition, and geography. My preliminary examination was completed by a fifth member of the board, asking me concerning zoology, spectrum analysis, and of scientific expeditions to observe the transit of Venus, of the knowledge they expected to gain and the instruments used. To say that I answered all the questions correctly would be presuming too much. The recorder said that I did finely.

"After this followed the regular surgical and medical examination, which was rigid. It was partly written and partly oral and was conducted with a view to finding out what a candidate does not know.

"It is impossible for a candidate to pass a successful examination unless he is considerably better than the average medical student. My examination closed today, and I was told results were satisfactory."

According to the Adjutant General's records, he died at Eagle Pass, Texas, November 17, 1888, aged forty-one.

Dr. D. C. Rowland came to Twin Lakes, Freeborn County, early in the summer of 1872, where he soon established the reputation of being a competent, honorable, and able physician. A card dated July, 1872, says:

"I will treat all diseases to the best of my ability. Have made a special study of diseases of women and children and chronic diseases of long standing. By long experience and strict attention to my profession, I am confident of treating all curable diseases with success. Obstetrical cases treated with care and success."—*Standard,* July, 1872.

"From July 11 to October 29, 1872, he rode twenty-two hundred miles." (*Standard,* November, 1872). This no doubt was on horseback, as in those days trails were few and for the most part impassable for horse-drawn vehicles. If destinations led where passage was impossible for horse and rider, they could both take a little roundabout walk, which no doubt often happened.

Dr. Rowland was an eclectic physician and "in October, 1875, he left for Cincinnati, Ohio, where he attended a course of lectures in that school." (*Standard,* October, 1875).

"Dr. Rowland, who has been home visiting his folks at Battle Creek, Iowa, is making preparations to move his office to that place. Dr. Rowland is a good physician and it is to be regretted that he does not find it to his interests to remain here."—*Enterprise,* January 31, 1884.

He left Twin Lakes in 1884 and located at Sioux City, Iowa. After retiring, he went to Red Bluff, California, where he died.

Dr. M. M. Dodge was born at New Lime, Ashtabula County, Ohio, Oct. 28, 1842, and at the age of fifteen began teaching school. In 1859 he studied medicine with Dr. Porter Key in his native town, and in 1861 entered the Cincinnati Hospital. In the winter of 1863-1864, he attended lectures at Ann Arbor, Michigan. The following spring he moved to Wisconsin, immediately enlisted in the Fortieth Wisconsin Volunteer Infantry, Company D, and was detached as assistant surgeon in the Adams Hospital, upon the regiment's arrival in Memphis. After the close of the war, he located in Chicago; and after the fire in October, 1871, having been burned out, he attended lectures at the Hahnemann Medical College, from which he graduated February 22, 1872. The same year he married Miss Lucy Norton and moved to Lone Rock, Wisconsin. In the spring of 1874 they came to Albert Lea, where Dr. Dodge established an extensive practice. In his newspaper card he announced himself as "College read, of long experience and a homeopath, and therefore would not be materially in competition with the other schools of practice."—*Freeborn County History,* 1880.

The following is a dictation taken during an interview with an old personal friend:

"Dr. Dodge, besides being a successful practitioner, had a colorful personality. He was always well dressed, shoes shined, generally wore kid gloves, and was very neat in his appearance. He was a lover of good horses. I recall a fine bay team of his, well matched, always carefully cleaned, groomed, and well harnessed, hitched to a clean good looking carriage. Sometimes when he received a call, he would come out of his office in a dignified manner, get into his carriage, give the horses the proper signal, and start away in a whirl of speed and dust as though going to a fire. Passers-by were sure to think that something very serious had happened and that the doctor's presence was urgently required. Other doctors might intimate that he might not have any call at all, and was only putting on a little show; but in any event, all knew the doctor was on his way.

"Dr. Dodge was of the generation that believed that whiskey might, on occasion, be used as a beverage. Now and then he would over-indulge, tell some one what he candidly thought about him, and sometimes find himself in justice court charged with assault. He would be fined the customary amount, pay it, and then arise in a Chesterfieldian manner, compliment the justice on his careful observance of the law, apologize to him for causing him any trouble, apologize to the victim, and then make a dignified exit. Apparently those episodes had very little effect on the volume of his practice. . . . I recall a well known citizen of Albert Lea being indisposed and in bed. His wife diagnosed his illness as heart trouble. She got word to Dr. Dodge to come in a hurry. When he arrived, she met him at the door and in a very agitated manner urged him to 'Hurry! hurry! Tom is very ill.' 'What seems to be the matter?' asked the doctor. 'Oh, it is his heart, his heart!' 'Rule that out,' the doctor replied. 'That is impossible; that —*—* fool hasn't any heart.'"

Dr. Dodge spent the winter of 1888-1889 in Chicago, specializing in gynecology. In 1890 he moved to Tacoma, Washington.

Dr. Willis H. Twiford came to Freeborn County and settled in the village of Geneva in 1873. He built a fine home in 1875 and owned adjacent land, which he farmed and on which he later platted a fine addition to the village. He was a kindly gentleman, a very solid general practitioner, and one true to his trust. He was born

May 12, 1821, in Fayette County, Ohio. His mother died when he was seven years old and left a family of ten children. In early life he improved all opportunities offered him for obtaining an education. He attended the academy at Delaware, Ohio, for two terms and later entered the office of Dr. Stanley Skinner, Jr., with whom he read and practiced. He studied medicine for three full years and graduated with the degree of M.D. at the Starling Medical College of Columbus, Ohio, in 1845. In April, 1846, he married Miss Nancy R. Darling, daughter of Jeremiah Darling, Esq., of Madison County, Ohio.

Dr. Twiford practiced for a time at Plain City, Ohio, until August, 1853, when he removed to Union City, Indiana, and remained there until the war in 1861. He joined the Twenty-fifth Indiana Regiment as assistant surgeon and was soon commissioned surgeon. He was in charge of the hospital on the field at the battle of Antietam. He was later appointed by General Hooker as Surgeon-in-Chief of the First Division of the Twelfth Army Corps. He held this commission until July, 1864, when he resigned in consequence of an injury to his spine that resulted in partial paralysis. He came to Minnesota in 1864 and first settled at River Point, in Steele County. Here he was elected to the ninth legislative session of the state in 1866. Dr. Twiford was a Republican and active in politics. He became interested in the projected Duluth and Mankato Railroad, which gave promise of including the village of Geneva, and for several years he was a member of its board of directors. This venture, however, never materialized. After practicing medicine for fifty years, he sold his practice in 1895 and retired and moved to Owatonna, where he died in 1902 at the age of eighty-one.

Dr. W. D. Cole located at Albert Lea in 1873. In his newspaper card he advertised that he was an eclectic physician, a veterinary surgeon, and a druggist.

"Go to Cole's drugstore, where you can buy pure drugs and medicines. Do not ruin your chances of recovery by being drugged with mercurial preparations under the old system, but adopt the only scientific system—the Eclectic. Chronic diseases of long standing a specialty. Consultation free."

In 1879 he moved to Mankato, and in 1883 went to Olmsted County. He was addicted to "the liquid havoc of the oaken stave, and warmed with its deviltry, was arrested and heavily fined for assault in Rochester in November, 1883." (*Enterprise*, November, 1883). He died at Alden and was buried at La Crosse, Wisconsin.

Dr. F. J. Benham, a graduate of the State University of Iowa Medical College, located at Alden in 1873. He came from Cascade, Iowa, and evidently was a well-qualified physician. "He practiced for a while at Alden and the next year returned to Iowa. In December, 1880, he and his wife were lost with the steamer Alpena, which foundered in a storm on Lake Michigan."

(To be continued in the January issue.)

President's Letter

OUR CHALLENGE OF PERSONAL RESPONSIBILITY

The end of the year is a traditional and appropriate time to reflect upon some of the accomplishments which have taken place in your State Association during the past twelve months. I shall touch on these matters only briefly, however, because I believe it is even more important at this time to look knowingly at the problems ahead, to acknowledge frankly and realistically the shortcomings which still beset us, and to determine not only to keep on stating our case but to back up such statements with the kind of day-to-day performance that clearly associates our services with the public interest.

It has been the aim of our Association this year to expand its health education program. I believe the Association has made substantial progress in this direction. And I emphasize again that the credit for this belongs to you as individuals, because good public relations are the cumulative result of sound thinking and conduct by our individual membership. We have attempted to be realistic in our approach to this problem. Information has been sent from the state office to each individual practicing physician; the local county medical society has been encouraged to realize its importance as a fundamental bulwark in our relations with the public; and other medical organizations, including the Woman's Auxiliary, have been familiarized with our objectives.

We can count these definite results: I believe that every member is better informed and realizes the necessity for keeping informed more than ever before. (I am referring not alone to technical medical information, but also to information which helps the medical man have a greater awareness of the current relationship of himself and his profession to the community.) A new interest is evident in the county medical societies, and only a continued improvement in attendance in these society meetings is necessary to further heighten their effectiveness. The Woman's Auxiliary, together with the Public Health Department of the state, has done a magnificent piece of work in "Health Days." The Governor of the state has been most co-operative in all of our activities.

That we have just begun to scratch the surface on many of these activities I am sure most of you will readily acknowledge. Under the leadership of our very capable incoming president there is no question that the approaching year will see even greater efforts along these and other lines. To my way of thinking—and without reasserting all of our specific public relations problems which I have touched on in recent months—one primary question holds the key to whether our Association and private medicine in general will move ahead or retrogress during 1949 (we cannot, of course, stand still). It is this:

Are you prepared and willing to exercise the deed and vigorous individual responsibility which these times call for from medical men?

It is regrettable that some well-meaning persons within the ranks of medicine still refuse to acknowledge that we present-day medical men have fallen heir to peculiar problems or that our profession faces something of a crossroads. These individuals can only be compared with the proverbial ostrich seeking solace from reality by placing his head in the sand. Medicine won a high professional standing through diligent, intellgent work, and more of the same will be required.

The individual responsibility which we exercise in accomplishing this, in turn, will avail us of added resources of courage to do a better job, for courage stems from a rightness and a knowledge that the job you do is successfully meeting every challenge of the new era in which we live. Your Association solicits your continued and wholehearted co-operation, and here, as possibly at no time in the past, you will in turn find the value of our organization from a local, state and national level.

A. E. Cardle

President, Minnesota State Medical Association

Editorial

CARL B. DRAKE, M.D., *Editor;* GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

PROVISION OF MEDICAL CARE

THE SURPRISING and, to some people, stunning victory of the Democratic Party suggests that renewed efforts will be made to establish some form of compulsory federal sickness insurance resembling the various Murray-Wagner-Dingell Bills submitted to Congress in recent years. Inasmuch as President Truman has given his approval to these bills on previous occasions, there is no reason to think he has changed his philosophy on this subject. Whether he will be able to persuade Congress that State Medicine will be to the benefit of the people is another matter. If we, as physicians, are convinced that placing our profession in the employ of the government will lead to an inferior type of medical care for American citizens, it will behoove us to tell our Representatives in Congress our convictions and to persuade others who are leaders in the community to do likewise.

That medical care is costly, everyone will admit. So is everything else. The doctor's bill is but one cost item and in many cases, compared with the hospital and nursing cost, is a smaller item. Widespread hospital insurance helps to care for the mounting cost of hospitalization, but its benefits and of necessity its rates should be increased to afford more needed protection. Voluntary medical insurance is growing fully as rapidly as was the case with hospital insurance, and the State Medical Associations' insurance, the so-called Blue Shield Plan, provides satisfactory coverage for the low income groups. Every effort should be made to increase their scope. It is true that both the Blue Cross and Blue Shield plans do not include the indigent, but neither do the proposed compulsory federal sickness insurance bills in which wage deduction provides services for only those employed and their families.

It is not difficult to imagine what the practice of medicine would be if anyone could have the services of a physician without cost to the individual. What a heyday it would be for the hypochondriac and what a headache for the profession! The volume of medical work would greatly increase, and the opportunity would arise, depending on the plan adopted, for either needless calls from the doctor or slipshod medical attention. The present incentives for self betterment stimulated by private practice would be largely eliminated, and mediocrity and inefficiency in medical practice would be favored. We venture to predict that the better doctors in private practice would not participate in State Medicine.

We have called attention before to the prospect of medical care being provided for a large and larger segment of our population—the veterans. The Veterans Administration has authority to build an *adequate* number of hospitals. The present plan is to provide 300,000 beds at a cost upwards of one billion dollars. The Bureau now has more beds than it can staff with doctors and nurses. Veterans who declare themselves financially unable to procure adequate medical care are admitted to the Veterans Hospitals for non-service-connected disabilities, and according to reports from the Veterans Administration more than three-fourths of their hospital beds are occupied by veterans with non-service-connected medical and surgical conditions. It is obvious that the law is not strictly enforced as to indigency. If the veterans in the future demand medical care for their families on the same basis that they themselves are receiving it, only the lack of doctors and nurses to man the hospitals is likely to prevent an extension of tax-supported medical care to an additional thirty million or more of our people. The Veterans hospital building plan, it is said, is running into unexpected and undesirable competition with the hospital building program of the Hill-Burton Act. In some instances, the two construction plans are operating in the same community. We can see the danger of the Veterans Administration being left with large hospitals, unoccupied, because of lack of personnel. We have a faint recollection of a large orthopedic hospital having been built by the Veterans Administration, after World War I, somewhere in

the southwestern desert, which had to be abandoned because there was no orthopedist available. A hospital, without doctors and nurses, irrespective of its location, is useless.

FUTURE DEFENSE OF MEDICAL PRACTICE

SINCE November 2, many inquiries have come from over the State as to the future plans of the National Physicians Committee.

The doctors of Minnesota have responded most generously to the support of the NPC during the past year, donating more than in any previous year. With very little solicitation they have donated more than $15,000.00.

Since November 2, we have all been somewhat stunned. We are not quite sure what we can do to head off political control of medicine. As Congressman Harness has shown, the present administration has spent more than $70 million and employed 3,000 government employes to convince the public that they want compulsory health insurance.

Ewing's ten-year program for the political control of medicine is something that should make every practitioner of medicine stop to think just what we can do for the protection of the profession. We must admit this report of Ewing's is very cleverly camouflaged. He has painted a very clever picture of the future of medicine under his plan. One who has not followed the development of this plan is very likely to overlook the evils which he has purposely failed to mention.

Many doctors still feel that the American Medical Association should be capable of forestalling such a disaster as this plan would institute. It is very plainly impossible for a scientific body, such as the AMA, to meet the trickery and political maneuvers of the politicians who are promoting this plan.

Just how much the NPC will be able to accomplish in our behalf is impossible for any one to say.

The officers and Board of Trustees of the AMA feel that the NPC is at least an important factor in combating the false propaganda that these politicians are endeavoring to present to the public. We are assured that the NPC will not do anything that does not meet with the approval of the AMA.

J. M. H.

CHRISTMAS SEALS

IT IS mainly to the laboratory research work that we must look for the solution of many of the yet unsolved problems of tuberculosis, and for advancement in our methods of prevention and treatment."

This statement made in 1904 by Edward Livingston Trudeau, first president of the National Tuberculosis Association, is still true, as is shown by the emphasis placed today on research work.

The National Tuberculosis Association, in the present Christmas Seal sale, is making a plea for increased funds needed for research work.

Five per cent of the funds raised goes to the National Tuberculosis Association for its research and other work, while 95 per cent remains in Minnesota to finance specific activities in each county and the state-wide program.

In connection with the present Christmas Seal campaign, it is interesting to trace some of the developments through research in the field of tuberculosis.

The discovery of the tubercle bacillus by Robert Koch in 1882 was the first blow at the deadly enemy. By proving that this bacillus was the cause of tuberculosis, Koch revealed that tuberculosis was a communicable disease which could be prevented.

A few years later the discovery of the x-ray by the physicist, William Conrad Roentgen, led to the development of the photofluorographic units which have been of inestimable aid to the physician in diagnosing tuberculosis.

In our own day, the discovery of streptomycin by Selman A. Wakman has encouraged scientists in the belief that a specific drug for tuberculosis may be found.

Despite this progress, tuberculosis still presents many baffling problems to the scientist. One of the most pressing questions at present is: What are the elements essential to the life of the tubercle bacillus?

Professor Rudolph J. Anderson of Yale University, who is making a chemical analysis of the tubercle bacillus, under a grant from the National Tuberculosis Association, was awarded the 1948 Trudeau medal by the National Tuberculosis Association in recognition of his work.

In a recent article in the *Bulletin* of the National Tuberculosis Association, Corwin Hinshaw, M.D., president of the American Trudeau So-

ciety, summarized the present-day knowledge as follows:

"Of the antibacterial drugs in tuberculosis, streptomycin is the only sufficiently tested and adequately effective preparation that can be recommended. It was not the first chemical remedy to be developed and I do not believe that it is the ultimate drug despite its pre-eminence at this time. New drugs must be tested exhaustively in the laboratory.

"Progress may be slow because there is a great gap between the guinea pig and the patient with tuberculosis; however, the gap between the culture tube and the experimentally infected guinea pig is still broader. To traverse these barriers will entail vast expenditures of patience, energy and money. We must recruit more scientists, technicians and dollars to engage in this worthy cause.

"There has never been a time when the word "control" of tuberculosis could be defined so precisely; when your job and mine were so clearly evident. We now think of tuberculosis in terms of persons; how to persuade them to make use of new and available diagnostic facilities, how to give them the benefit of the new advances in surgery and drugs.

"We are engaged in a struggle against an enemy, nothing abstract or intangible, but a living, growing, breathing being. The size of this enemy is microscopic, but numerally this bacillus is a very great enemy, clever and sinister in his attack. Great battles are being won against this enemy, but our efforts must be through direct methods to find where our enemy is and how to attack him directly when found. Now we seek and find this enemy by health education and mass radiography. We attack him with greatly improved weapons of therapy.

"The inspired leadership of voluntary organizations was never needed more acutely than it is now."

THE KENNY INSTITUTE

The Kenny Institute, founded in December, 1942, at the Lymanhurst hospital building in Minneapolis for the care of poliomyelitis patients has been the subject of controversy in medical as well as lay circles.

With the appointment of Dr. E. J. Huenekens, a well-known pediatrician of Minneapolis as chief of staff of the Institute last August; the addition of Dr. Miland E. Knapp as chief of physical medicine in charge of treatment and training of physiotherapists; also of Dr. John F. Pohl as consulting orthopedic surgeon, Dr. S. R. Seljeskog, and others, the Institute is assured of first-class professional supervision.

Sister Kenny, after whom the Institute is named and whose contribution to the treatment of poliomyelitis is recognized, will remain active with the Institute.

Sister Kenny recently made the following statement which appeared in the press:

"The Kenny institute is now under the direct supervision of members of the three departments of medicine—that is, pediatrics, physical medicine and orthopedics.

"These gentlemen have honored me by asking me to remain as consultant and teacher. This is a goal I have been working years for and at last achieved.

"I quite agree with the procedures of members of the medical profession for their caution in not embracing new ideas that may from time to time be presented, including my own, until they are satisfied they are effective. That is wisdom, and proves the public can confidently put their trust in their activities."

Dr. E. J. Huenekens adds the following comment:

"As background to the above statement of Sister Kenny, I wish to say that three months ago I accepted the position of Chief of Staff of the Kenny Institute because I firmly believe in the value of her treatment. There were two conditions to my acceptance: first, that I be given full responsibility for the medical direction of the hospital; and, second, that Dr. Miland E. Knapp have complete charge of the physical medicine aspects of the treatment with sole authority over the technicians, as he now has at the University Hospital and Sheltering Arms. These conditions have been fully met.

"A further reason for my taking over was to establish such relations with the University that the facilities of the Institute would be open to its staff for research and evaluation of the treatment. We are now in the process of working this out.

"Most important of all, we hope to do away with the antagonism that exists between Sister Kenny and the medical profession, which has caused both to be misunderstood by the public. If these misunderstandings can be resolved, physicians will be able to judge the Kenny method objectively; and, to that end, they will be welcomed at the Institute in the future to observe for themselves the treatment and its results."

SELECTIVE SERVICE AND THE MEDICAL PROFESSION

The induction into the Army of draftees began in October, 1948. The method differs from former procedures in that now the men are given their pre-induction examinations, not at Army installations but at their nearest Army or Air Force Recruiting Main Stations by civilian physicians. These stations are located at Bemidji, Duluth, Mankato, Minneapolis, St. Cloud, Willmar, and Winona.

The pre-induction examination consists of a mental test and a physical examination.

The mental test is an intelligence test and requires a rating of 70 or over for acceptance. From past Army experience with this test, 19 per cent have failed to pass, 19 per cent rated 70 to 89, 30 per cent 90 to 109, 26 per cent 110 to 129, and 6 per cent 130 up. From the Army's experience those rating 90 to 109 furnish the best soldier material. From those rating above 110 the Army selects those who qualify as leaders to be non-commissioned officers and its officer material.

The physical examination is designed to determine the individual's functional ability to perform military duty. This includes a test of his physical stamina, strength in arms and legs, hearing, vision, and neuro-psychiatric make-up. He must pass all parts of the physical examination. Serology and chest x-ray examinations are also done.

The examinations are made by civilian doctors with

(Continued on Page 1359)

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association
George Earl, M.D., Chairman

"ELECTION" IS THE WORD—WHAT IS THE TRANSLATION?

The people have spoken, in the way that a democracy speaks—by ballot. The word they've spoken is Truman, but what the word means, what are the nuances, the implications, the final result for medicine is yet to be seen. Fortunately, democracy is a game where everybody plays; nobody sits on the bench except by choice. Let's see to it that medicine has a strong team so that the final score will be in favor of private enterprise.

NORTH CENTRAL CONFERENCE STUDIES VARIETY OF PROBLEMS

Nearly 100 physicians from the six-state north central area exchanged information and opinions November 7, at the Hotel Radisson, on problems of mutual concern—the national program of Blue Cross and Blue Shield, Co-operatives and the practice of medicine, medicine in the next medical emergency, standards for prepaid medical care, the nursing shortage, the general practitioner and expansion of State Association programs.

The session, annual for the North Central Medical Conference, began with an address by A. W. Adson of Rochester, president of the conference. First of the discussion groups was that of Blue Cross and Blue Shield, led by James R. McVay, Kansas City, Missouri, chairman of the AMA's Council on Medical Service. Discussants were F. L. Feierabend, Kansas City, Missouri, and H. R. Brown, Watertown, South Dakota. Much interest and participation from the floor was provoked by the question of the proposed Blue Cross-Blue Shield association and formation of a national insurance company. Later, the Conference went on record as (1) approving a proposed resolution which would require that all Blue Shield Commissioners be practicing physicians and (2) commending the Council on Medical Service and the Board of Trustees of the American Medical association on their studies and analyses of the two Blue Cross-Blue Shield plans of action.

Mr. Crownhart, Madison, Wisconsin, secretary of the State Medical Society of Wisconsin, forecast six basic problems resulting from the impact of corporations on medical practices: "Are the services for the covered person going to be available when needed? Is there assurance that such ancillary procedures as are made available will measure up to the proper public health standards? Is the medical and surgical judgment of the attending physician unshackled? Will the plan make available properly qualified physicians for the services promised? If hospitalization benefits are included, are they adequate and within proper levels? Is quality maintained through free choice?"

Discussants in this section were W. A. Wright of Williston, North Dakota, and R. F. Erickson of Minneapolis.

Dinner was served in the Italian room and followed by two brief addresses: Gunnar Gunderson, LaCrosse, Wisconsin, outlined responsibilities of the American Medical association Board of Trustees, of which he is a member; and Thomas A. Hendricks, Chicago, Illinois, secretary of the AMA Council on Medical Service, listed "ten commandments for prepaid medical care," voicing his belief that the "quantity and quality" of medical services would be less, the cost "tremendously" more in any form of socialized medicine.

Howard K. Gray, Rochester, member of the AMA Committee on Nursing Problems, reviewed the suggestions formulated by the committee in seeking an answer to the nursing shortage question: attempt to bring nurses out of retirement, fit as many practical nurses into the picture as possible, train on the job attendants, see to it that work improperly assigned to nurses is given to others, stimulate the recruitment of nurses,

plan a grade of nurses below the present day professional nurse to do bedside nursing under the professional nurse's supervision, attempt to include nurses under the social security act, investigate retirement plans for nurses, consider the possibility of tying in nursing costs with the voluntary prepaid hospital and medical care plans.

R. G. Mayer, Aberdeen, South Dakota, and H. E. Stroy of Osceola, Iowa, assisted Dr. Gray in developing the discussion.

Revamping the course of instruction for general practitioners was among the suggestions brought forward by Mac F. Cahal, Kansas City, Missouri, secretary of the American Academy of General Practice, in his discussion of "The General Practitioner." With added skills and self-confidence, the GP could care for more of his difficult cases instead of referring them to specialists, he pointed out, quoting from a recent survey by a group of eastern specialists who found that more than 800 out of 1,000 cases referred to them by general practitioners could have been or should have been handled by the general practitioner himself.

Roy Fouts, Omaha, Nebraska, and N. G. Alcock, Iowa City, Iowa, served with Mr. Cahal on this discussion team.

Advocating economical use of American medical manpower in preparing for national defense, Harold R. Hennessy, Chicago, secretary of the AMA Council on National Emergency Medical Service, emphasized the need for medical representatives in the higher circles of governmental planning. ". . . America is losing her provincialism," he declared. "In its place there is being created a world consciousness and a sense of world responsibility and leadership, all of which means that American medicine, as a powerful and determining force, rightfully deserves representation in all high level planning assignments. Thus, in the expanding scope of national defense which strongly suggests the size, shape and scale of things to come, we can, through joint efforts, not only assure our national security, but we may also hope to prevent World War III."

Expanding State Association programs to meet present day sociological, political and economic threats was advocated by Floyd L. Rogers, Lincoln, Nebraska, chairman of the Nebraska State Medical Association's planning committee, and his discussants, A. E. Cardle, Minneapolis, and A. D. McCannel, Minot, North Dakota.

Dr. Rogers described Nebraska's plans as a "broadening and correlation of our activities . . . to bring about a maximum in completeness, efficiency and quality of medical service, curative and preventive, with emphasis on the creation of a better understanding between the public and the medical profession."

"In order to accomplish such a broad program, he continued, "we physicians must have a definite change of attitude. We must change from an attitude of stubborn resistance or indifference to one of aggressive and constructive leadership. We must admit that we have shortcomings, and some of these are serious. We must understand that the public realizes these shortcomings more than we, that they suffer because of them, and that they want and will have something done about them. It is for us to look sharply for our own weaknesses and to promptly and aggressively set out to correct them."

Nebraska's program was outlined in seven major points: public health, preventive medicine and health education; self-disciplinary measures; Nebraska Medical Foundation; continuous scientific educational program for the medical profession; Nebraska Medical Service; uniform fee schedule for governmental agencies; continuous sociological research program.

GOVERNOR'S CONFERENCE MAKES HEALTH SUGGESTIONS

The health panel of the Governor's State Conference on Youth, set to work October 18 to recommend conservation measures for the health of the state's estimated 1,000,000 children and youth. "The well being of these people constitutes the most valuable resource of the State," the panel agreed. "The future status of this well-being is dependent in large measure on the health care and protection and education given to the children and young people. Their health is of great concern to the State."

Stressing preventive care, the panel submitted a list of recommendations to the conference which included: extension of qualified prenatal and maternity medical care to all mothers to assure every child the opportunity of being born sound and healthy; medical supervision of children and youth administered through the medium of periodical health appraisals for guidance of growth and development, supervision of nutrition, detection and correction of physical defects and for

the detection, prevention and treatment of emotional and mental disturbances.

The panel favored prevention of dental disease and provision of dental care for pre-school and school children, prevention and control of preventable and communicable diseases and a sanitary environment for each child.

Following the enumerated recommendations, the panel took up the cudgels for local health unit legislation, pointing out that "organization for public health service is deficient in Minnesota, apparent from a brief review of the existing facilities."

"Minnesota has a strong State Health Department which gives a limited direct service from the central office and through eight branch offices. The unit of government which is needed is the full-time local health department which has been developed and recommended for universal adoption by the public health and medical authorities of this country."

Dr. Viktor O. Wilson, city health officer at Rochester and former chief of the special services section, Minnesota State Department of Health, served as chairman of the Health panel.

Other divisions of the conference were: church, community organization and co-ordination, detention and protective care, employment and youth welfare, home and family, housing and youth welfare, institutional handling, juvenile court laws, juvenile justice, law enforcement, recreation and youth participation, rural youth, school and teacher, social services, treatment facilities.

A report of the two-day Conference findings will be available in published form shortly.

MINNESOTA TWELFTH IN NUMBER OF PHYSICIANS

Minnesota, with 4,263 living physicians, ranks twelfth in the nation in number of physicians, according to a recent survey by Frank G. Dickinson, director of the AMA Bureau of Medical Economic Research. States with more doctors are: New York, 30,970; California, 16,069; Pennsylvania, 14,633; Illinois, 13,307; Ohio, 10,091; Massachusetts, 9,102; Texas, 7,621; Michigan, 7,127; New Jersey, 6,585; Indiana, 4,396; Missouri, 5,352.

The Minnesota total is 2.24 per cent of the 199,755 physicians in the entire United States.

Commenting on his study, Dr. Dickinson said: "At this stage of our operations, one important statistical fact emerges. The (approximate) number of living physicians in the United States is now *17 per cent* greater than the 170,163 shown in the 1940 AMA Directory; the population of the United States has increased only *12 per cent* since 1940."

When the tabulation is completed, Dr. Dickinson expects to have a breakdown of the total figures, locating the physicians in such groups as: practicing, retired, employed by federal, state and local health agencies.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Building
Saint Paul, Minnesota

Julian F. DuBois, M.D., Secretary

Marshall Man Pleads Guilty to Illegal Practice of Massage

Re. State of Minnesota vs. Frank Sprader

On November 15, 1948, Frank Sprader, forty-eight years of age, Marshall, Minnesota, entered a plea of guilty in the District Court of Lyon County, Minnesota, to an information charging him with the crime of practicing massage without a license. Following a statement of the facts to the Court, Sprader was sentenced by the Hon. A. H. Enersen, Judge of the District Court, to a term of three months in the Lyon County jail. The sentence was suspended for a period of one year on condition the defendant pay the Court costs and obey all the laws of the State of Minnesota, including the massage law. Sprader must also report to the County Attorney of Lyon County, once every two months during his probation.

Sprader stated to the Court that he was born at Manitowoc, Wisconsin, in 1900 and that he moved to Ivanhoe, Minnesota, in 1908. Sprader stated that he is married and has eight children ranging from less than one year to seventeen years. Sprader admitted that he had been practicing massage at Marshall, Minnesota, since January, 1947. He stated he averaged about four patients per day and charged $2.00 per treatment. Sprader had in his possession at the time of his arrest a massage diploma from the College of Swedish Massage, Chicago, Illinois. Sprader admitted that he did not attend the school but took a correspondence course. The diploma is dated October 30, 1945, and reads as follows:

"Frank S. Sprader has completed a prescribed course in Health Culture and has passed a creditable examination in the art of scientific Swedish Massage, Medical Gymnastics, Dietetics, Hydro Therapy, Swedish Face and Scalp Treatment, Hygiene and the underlying principles of anatomy and physiology."

Sprader stated to the Court that he ceased practicing massage at the time of his arrest in June. Upon being asked by Judge Enersen as to how he was making his living at the present time, Sprader replied that he was doing carpenter work and also paper hanging. The Minnesota State Board of Medical Examiners wishes to acknowledge the co-operation received in this case from C. J. Donnelly, County Attorney of Lyon County, and also Sheriff Roland Rans and Deputy Sheriff Knute Bergman of Lyon County.

Minnesota State Board of Medical Examiners

230 Lowry Medical Arts Bldg., Saint Paul, Minnesota

Julian F. DuBois, M.D., Secretary

PHYSICIANS LICENSED FEBRUARY 6, 1948

January 1948 Examination

Name	*School*		*Address*
ADAMS, Neil Dahlen	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
BLOCK, Melvin August	Indiana U.	MD 1944	Mayo Clinic, Rochester, Minn.
BURGESS, Harry Meredith	McGill U.	MD 1944	Mayo Clinic, Rochester, Minn.
DAILY, Jr., Louis	U. of Texas	MD 1943	Mayo Clinic, Rochester, Minn.
DODGE, Mark	U. of Kans.	MD 1941	Mayo Clinic, Rochester, Minn.
ENDERS, Walter R.	U. of Ore.	MD 1947	Ancker Hospital, Saint Paul, Minn.
FURMAN, Lucie Christine	U. of Minnesota	MD 1947	307 Union St. S.E., Minneapolis, Minn.
GROOM, Joe John	Ohio State U.	MD 1941	Mayo Clinic, Rochester, Minn.
HAKANSON, Erick Yngve	U. of Minnesota	MD 1945	225 Med. Sciences Med. Sch., University of Minnesota, Minneapolis, Minn.
HAMMOND, Don Robert	Northwestern U.	MD 1944	Ebling Clinic, Mt. Vernon, Wash.
HAVEL, Robert Joseph	Creighton U.	MD 1947	229 Macalester Ave., Saint Paul, Minn.
HEISE, Carl von Rohr	Jefferson Med. Col.	MD 1944	Franklin and Sarnia Sts., Winona, Minn.
HOFMANN, Gerald Norbert	Marquette U.	MD 1947	St. Joseph's Hosp., Saint Paul, Minn.
HUNTER, Jr., James Stanley	U. of Maryland	MD 1941	Mayo Clinic, Rochester, Minn.
ISRAELS, Max	U. of Manitoba	MD 1929	806 Broder Bldg., Regina, Sask., Canada
JAMES, John W.	U. of Minnesota	MD 1946	Lake Crystal, Minn.
JAMISON, Robert Watt	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
KAPLAN, Joseph Harold	U. of Illinois	MD 1938	Mayo Clinic, Rochester, Minn.
KITZBERGER, Jr., Peter Joseph	Marquette U.	MD 1947	819 N. Washington St., New Ulm, Minn.
KUCERA, Louis Benedict	Marquette U.	MD 1946	Lonsdale, Minn.
KULWIN, Myron Herman	U. of Illinois	MD 1944	Mayo Clinic, Rochester, Minn.
McDONALD, Roger Koefod	U. of Minnesota	MD 1946	113 Anatomy Bldg., University of Minnesota, Minneapolis, Minn.
MURPHY, George Herman	Dalhousie U.	MD 1940	Mayo Clinic, Rochester, Minn.
PATERSON, Philip Young	U. of Minnesota	MB 1947	Minneapolis General Hosp., Minneapolis 15, Minn.
PATTON, Jr., Matthew Moss	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
POWER, Jr., John Edward	Northwestern U.	MD 1947	Miller Hospital, Saint Paul, Minn.
RANDALL, Samuel John	Ohio State U.	MD 1942	Mayo Clinic, Rochester, Minn.
SCHIRBER, Martin Joseph	Northwestern U.	MD 1946	121 W. 9th, Grand Rapids, Minn.
STAYTON, Jr., Chester Arthur	Indiana U.	MD 1943	Mayo Clinic, Rochester, Minn.
THEISSEN, Hubert Herbert	Marquette U.	MD 1947	801 N. Franklin, New Ulm, Minn.

Reciprocity Candidates

BRACELAND, Francis James	Jefferson Med. Col.	MD 1930	Mayo Clinic, Rochester, Minn.
CURTIS, Dean Daniel	St. Louis U.	MD 1947	Ivanhoe, Minnesota
ERDAL, Ove Arthur Emil	U. of Minnesota	MD 1944	126 E. William St., Albert Lea, Minn.
HAGGAR, David Kalil	U. of Nebr.	MD 1943	Mountain Lake, Minn.
HECK, Walter E.	Syracuse U.	MD 1941	Mayo Clinic, Rochester, Minn.
JONES, George William	U. of Minnesota	MD 1946	Mayo Clinic, Rochester, Minn.
LECKLITNER, Myron DeVoy	Jefferson Med. Col.	MD 1934	St. Barnabas Hospital, Minneapolis, Minn.
RAE, James Weaver	U. of Michigan	MD 1943	Mayo Clinic, Rochester, Minn.
SCHMIDT, Ruben Frederick	U. of Wisconsin	MD 1943	Alden, Minn.
SCRIBNER, Belding Hibbard	Stanford U.	MD 1945	Mayo Clinic, Rochester, Minn.
SPOCK, Benjamin McLane	Columbia U.	MD 1929	Mayo Clinic, Rochester, Minn.
TORRE, Mottram Peter	Tulane U.	MD 1943	Students' Health Service, University of Minnesota, Minneapolis 14, Minn.
ZICK, Luther Herman	U. of Michigan	MD 1943	Mayo Clinic, Rochester, Minn.

National Board Candidates

ALDRICH, Clarence Knight	Northwestern U.	MD 1940	Students' Health Service, University of Minnesota, Minneapolis 14, Minn.
BERGER, Alfred Jacob	Harvard U.	MD 1940	Students' Health Service, University of Minnesota, Minneapolis 14, Minn.
CARRIS, James Vernon	U. of Illinois	MD 1942	University of Minnesota Division of Otolaryngology, Minneapolis, Minn.

PHYSICIANS LICENSED

Name	*School*		*Address*
CREHAN, Elmer Leo	Boston U.	MD 1943	Mayo Clinic, Rochester, Minn.
EDDY, Frank Dayton	U. of Vermont	MD 1942	Department of Surgery, University of Minnesota, Minneapolis 14, Minn.
FAZIO, Anthony Nicholas	New York Med. Col.	MD 1943	Mayo Clinic, Rochester, Minn.
LIVERMORE, George Robertson	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
NOEHREN, Theodore Henry	Rochester, U.	MD 1942	Mayo Clinic, Rochester, Minn.
ROME, Howard Phillips	Temple U.	MD 1935	Mayo Clinic, Rochester, Minn.
TURNBULL, Theodore	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
WARD, Louis Emmerson	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
WASMUND, Clarence William	Long Is. Col.	MD 1944	Interstate Clinic, 3rd & Dakota Streets, Red Wing, Minn.

PHYSICIANS LICENSED MAY 14, 1948

April 1948 Examination

Name	*School*		*Address*
ANDERSON, Jr., Markham John	U. of Minnesota	MD 1947	40 S. Snelling Ave., Saint Paul, Minn.
ANDERSON, Robert Leonard	Northwestern U.	MD 1943	Mayo Clinic, Rochester, Minn.
ANTHONY, Jr., Walter Philip	Indiana U.	MD 1943	Mayo Clinic, Rochester, Minn.
ARAM, Hartley Herrick	U. of Illinois	MD 1946	706 Hazelwood, Detroit 2, Mich.
ARNOLD, Samuel J.	St. Louis U.	MD 1940	Mayo Clinic, Rochester, Minn.
BALL, Warren Philip	Indiana U.	MD 1942	Mayo Clinic, Rochester, Minn.
BASKIN, Roy Howard	U. of Texas	MD 1942	Mayo Clinic, Rochester, Minn.
BEGLEY, Jr., Joseph Walter	Northwestern U.	MD 1946	Mayo Clinic, Rochester, Minn.
BELLEGIE, Nicholas Joseph	U. of Texas	MD 1944	Mayo Clinic, Rochester, Minn.
BOYER, George Savage	U. of Oregon	MD 1938	X-Ray Dept., University of Minnesota, Minneapolis 14, Minn.
BOYSEN, James Frederick	U. of Minnesota	MD 1948	Madelia, Minnesota
BRADLEY, Nelson John	U. of Alberta	MD 1943	Pouch A, State Hospital, Hastings, Minn.
BRANDENBURG, Robert Orville	U. of Pennsylvania	MD 1943	Mayo Clinic, Rochester, Minn.
BUFFMIRE, Donald King	Northwestern U.	MD 1947	Mayo Clinic, Rochester, Minn.
CONLEY, Charles Callaghan	U. of Minnesota	MD 1947	982 E. Ivy Ave., Saint Paul, Minn.
CORNWALL, Milton Arthur	Marquette U.	MD 1946	Baldwin, Wisconsin
DOLAN, Ronald Allan	Queen's U.	MD 1944	1118 Seventh St. S.E., Minneapolis 14, Minn.
DRESCHER, Edward Philip	U. of California	MD 1940	Mayo Clinic, Rochester, Minn.
ENGEL, Joseph Peter Frank	U. of Manitoba	MD 1944	Mayo Clinic, Rochester, Minn.
FALBISANER, George Jerome	Col. Med. Evan.	MD 1948	Riverside Co. Hospital, Arlington, Calif.
FREEMAN, Craig W.	Indiana U.	MD 1945	Institute of Anatomy, University of Minnesota, Minneapolis 14, Minn.
FRYS, Russell Nicholas	Marquette U.	MD 1946	1154 Randolph Ave., Saint Paul 5, Minn.
GILLMAN, Louis	U. of Minnesota	MD 1945	336 Pleasant Ave., Saint Paul, Minn.
GLEASON, Donald Floyd	U. of Minnesota	MD 1945	Veterans Administration Hospital, Minneapolis, Minn.
GOOD, Harold Victor	U. of Oregon	MD 1947	Scandinavian Alliance Mission, 2839 W. McLean Ave., Chicago 47, Ill.
HARRIE, John Raymond	U. of Illinois	MD 1947	Grey Eagle, Minn.
HAYES, Daniel William	Northwestern U.	MD 1947	Mayo Clinic, Rochester, Minn.
HILSABECK, John Richard	Creighton U.	MD 1943	Mayo Clinic, Rochester, Minn.
HINKE, Dayton Henry	U. of Pennsylvania	MD 1944	Department of Anesthesiology, University of Minnesota Hospitals, Minneapolis, Minn.
JAMPOLIS, Robert Warren	U. of Chicago	MD 1944	Mayo Clinic, Rochester, Minn.
JOHNSON, Melford Ivan	Jefferson Med. Col.	MD 1944	Mayo Clinic, Rochester, Minn.
KELTY, Richard Harry	U. of Michigan	MD 1943	Mayo Clinic, Rochester, Minn.
KRYSTOSEK, Lee Albin	Loyola U.	MD 1945	Box 633, Holdingford, Minn.
LUNGSTROM, Ronald Edward	U. of Minnesota	MD 1947	4212 Palmetto Way, San Diego, Calif.
MAGRAW, Charles Elliott	U. of Minnesota	MB 1947	St. Luke's Hospital, Duluth, Minn.
McBURNEY, Robert Powers	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
McCORMACK, Lawrence J.	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
McLEOD, Jr., John Joseph	Marquette U.	MD 1947	Olivia, Minn.
MOORE, Boliver Baylous	Meharry Med. Col.	MD 1943	809 Aldrich Ave. N., Minneapolis, Minn.
NOWAK, Delwyn James	Northwestern U.	MD 1947	Mayo Clinic, Rochester, Minn.
O'NEILL, John Campbell	U. of Manitoba	MD 1939	Duluth Clinic, 205 W. 2nd St., Duluth, Minn.
PATTON, James Moss	Northwestern U.	MD 1947	Mayo Clinic, Rochester, Minn.
PETERSON, Palmer Alexander	Marquette U.	MD 1947	2643 Elliot Ave., Minneapolis, Minn.
PHILLIPS, John Francis	U. of Indiana	MD 1944	State Hospital, St. Peter, Minn.
RANDALL, Warren Hart	U. of Iowa	MD 1943	Mayo Clinic, Rochester, Minn.
REID, John Hugh	St. Louis U.	MD 1947	Fairview Hospital, Minneapolis, Minn.
RIDDELL, Richard Vernon	Harvard U.	MD 1942	Mayo Clinic, Rochester, Minn.
SCHAAR, Frances Elizabeth	U. of Illinois	MD 1946	Students' Health Service, University of Minnesota, Minneapolis, Minn.
SCHMIDT, John Rempel	U. of Kansas	MD 1938	Mountain Lake, Minn.
SCHOREGGE, Robert Daniel	U. of Illinois	MD 1947	507 6th St., Bismarck, No. Dak.

Name	*School*		*Address*
SCHWEPPE, John Shedd	Northwestern U.	MD 1943	Mayo Clinic, Rochester, Minn.
SENTY, Robert Myron	U. of Wisconsin	MD 1947	Miller Hospital, Saint Paul, Minn.
SHORT, Eugene H.	U. of Minnesota	MD 1945	1103 Rose Ave., Worthington, Minn.
SPENCE, Bartholomew John	Northwestern U.	MD 1943	Mayo Clinic, Rochester, Minn.
TILLOTSON, John Franklin	U. of Ohio	MD 1943	Mayo Clinic, Rochester, Minn.
WRIGHT, Thomas Dissmore	U. of Minnesota	MD 1945	Asbury Hospital, 916 E. 15th St., Minneapolis 4, Minn.

Reciprocity Candidates

BELLOMO, James	St. Louis U.	MD 1947	808 E. 3rd St., Saint Paul, Minn.
DWORETZKY, Murray	Long Is. Col.	MD 1942	Mayo Clinic, Rochester, Minn.
GERSTEN, Jerome William	New York U.	MD 1939	Mayo Clinic, Rochester, Minn.
HALBERT, John Jerrard	Rush-Chicago U.	MD 1940	1115 Med. Arts Bldg., Duluth, Minn.
HARNAGEL, Edward Everett	Jefferson Med. Col.	MD 1943	Mayo Clinic, Rochester, Minn.
HARTJEN, Jason Kellough	Wayne U.	MD 1944	217½ Third St., Bemidji, Minn.
KOEFOOT, Robert Reese	U. of Nebraska	MD 1947	Miller Hospital, Saint Paul, Minn.
NICHOLSON, III, John Whitall	U. of Pennsylvania	MD 1941	Mayo Clinic, Rochester, Minn.
SCHMIDT, Werner Fritz	Wayne U.	MD 1943	University of Minnesota Hospitals, Department of Psychiatry, Minneapolis, Minn.

National Board Candidates

BENNETT, Henry Stanley	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.
BERNATZ, Philip Eugene	U. of Iowa	MD 1944	Mayo Clinic, Rochester, Minn.
BUTCHER, William Alexander	U. of Pennsylvania	MD 1945	Stewartville, Minn.
DECKER, David Garrison	Yale U.	MD 1942	Mayo Clinic, Rochester, Minn.
DEKRUIF, Hendrik	Yale U.	MD 1942	227 Millard Hall, University of Minnesota Medical School, Minneapolis 14, Minn.
FREEDMAN, Donald Kenneth	Tufts Med. Col.	MD 1936	5601 Grand Ave., Duluth 7, Minn.
FRICK, Adelaide Howard Childs	Yale U.	MD 1943	Box 675, Child Health Institute, Rochester, Minn.
FULLER, Josiah	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
HALL, Buford	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.
KLECKNER, Jr., Martin Seler	U. of Pennsylvania	MD 1945	Mayo Clinic, Rochester, Minn.
MIGHELL, Scott James	U. of Iowa	MD 1945	University of Minnesota, Department of Surgery, Minneapolis 14, Minn.
PATEY, Robert Thayer	Harvard U.	MD 1944	119 State St., Buhl, Minn.
SHANDS, Wilbourn Coupery	Vanderbilt U.	MD 1945	Mayo Clinic, Rochester, Minn.
TAKARO, Timothy	N. Y. Univ.	MD 1943	Mayo Clinic, Rochester, Minn.
TEITGEN, Ralph Emil	U. of Pennsylvania	MD 1944	Mayo Clinic, Rochester, Minn.

PHYSICIANS LICENSED JULY 9, 1948

June 1948 Examination

Name	*School*		*Address*
ARNESEN, Paul Musaus	New York U.	MD 1947	Newport, Minn.
BARRON, Jesse John	U. of Minnesota	MB 1948	St. Mary's Hospital, Duluth, Minn.
BIANCO, Jr., Anthony Joseph	U. of Minnesota	MB 1948	St. Mary's Hospital, Duluth, Minn.
BITNER, Leland Merle	U. of Minnesota	MB 1948	Letterman General Hospital, San Francisco, Calif.
BLOCHOWIAK, Norbert Paul	U. of Minnesota	MB 1948	Ancker Hospital, Saint Paul, Minn.
BOEKELHEIDE, Priscilla Day	U. of Minnesota	MB 1948	3959 Xenia Ave., Robbinsdale, Minn.
BOUCEK, Robert Joseph	U. of Pittsburgh	MD 1943	Mayo Clinic, Rochester, Minn.
BOYSEN, Alexander Marius	U. of Minnesota	MB 1948	St. Francis Hospital, 45th and Pennsylvania Ave., Pittsburgh 1, Pa.
BROOKING, Donald George Wm.	U. of Minnesota	MB 1948	Detroit Receiving Hospital, Detroit, Mich.
DAVIS, Jr., William Harris	U. of Indiana	MD 1940	Two Harbors Hospital, Two Harbors, Minn.
DERAUF, Donald Evensta	U. of Minnesota	MB 1948	St. Luke's Hospital, Duluth, Minn.
DIXON, Allan Alvin	U. of Alberta	MD 1945	Minneapolis General Hospital, Minneapolis, Minn.
EGDAHL, John Emery	U. of Minnesota	MB 1948	Northwestern Hospital, Minneapolis, Minn.
ENGSTROM, Ruby Maria	U. of Minnesota	MB 1948	Wayne Co. General Hospital, Eloise, Mich.
ERICKSON, Myron Elwood	U. of Minnesota	MB 1948	Swedish Hospital, Minneapolis, Minn.
EYSTER, Jr., William Henry	U. of Pennsylvania	MD 1943	Mayo Clinic, Rochester, Minn.
FALSETTI, Frank Peter	Marquette U.	MD 1942	Mayo Clinic, Rochester, Minn.

Name	*School*		*Address*
FINK, Robert John	U. of Minnesota	MB 1948	St. Luke's Hospital, Chicago, Ill.
GRAHAM, George Grimsley	U. of Arkansas	MD 1947	609 Medical Arts Bldg., Minneapolis, Minn.
GREEN, Clayton Robbie	U. of Minnesota	MB 1948	University of Minnesota Hospital, Minneapolis, Minn.
HALVORSON, James William	U. of Minnesota	MB 1948	St. Mary's Hospital, Duluth, Minn.
HEINE, Jr., George Winfield	U. of Minnesota	MB 1948	St. Luke's Hospital, Duluth, Minn.
HERING, George Vosburgh	U. of Minnesota	MD 1945	Denmark, Wisconsin
HILL, Eldon Fred	U. of Wisconsin	MD 1947	303 Court St., Janesville, Wis.
HOLLAND, Cleon Richard	Hahneman Med. Col.	MD 1940	512 2nd Ave. S. W., Rochester, Minn.
HUDSPETH, William Theron	Cornell U.	MD 1942	2425 29th Ave. So., Minneapolis, Minn.
JACOBSON, Loren Joel	U. of Minnesota	MB 1948	Minneapolis General Hospital, Minneapolis, Minn.
JANDA, Jr., George Walter	U. of Minnesota	MD 1948	Bertha, Minn.
JENSEN, Robert Travis	U. of Minnesota	MB 1948	Miller Hospital, Saint Paul, Minn.
JOSEPH, Sheldon William	U. of Minnesota	MB 1948	Detroit Receiving Hospital, Detroit, Mich.
JOYER, Robert Michael	U. of Minnesota	MB 1948	Wayne Co. General Hospital, Eloise, Mich.
KADAS, Warren Andrew	U. of Minnesota	MB 1948	Emanuel Hospital, Portland, Ore.
KEPPEN, Ford F.	U. of Indiana	MD 1935	557 Lowry Medical Arts Bldg., Saint Paul, Minn.
KIELY, William Francis	U. of Illinois	MD 1941	Mayo Clinic, Rochester, Minn.
KLOBUCAR, James John	Marquette U.	MD 1947	Wabasha, Minn.
KOPP, Clarence John	U. of Oregon	MD 1947	Nyssa, Oregon
KUSHNER, Paul J.	U. of Minnesota	MB 1948	Beth-El Hospital, Brooklyn 12, New York
LEWIS, Jr., Joyce Sansen	U. of Minnesota	MB 1948	University of Minnesota Hospitals, Minneapolis 14, Minn.
LOCKETZ, Harold David	U. of Minnesota	MB 1948	1820 1st Ave. So., Minneapolis, Minn.
LOWMAN, Edward Wynne	Med. Col. of S. Carolina	MD 1940	Mayo Clinic, Rochester, Minn.
LUTTGENS, William Frederick	Stanford U.	MD 1944	Mayo Clinic, Rochester, Minn.
MADENBERG, Fred	U. of Minnesota	MB 1948	1508 S. St. Louis Ave., Chicago, Ill.
MAGEE, Mary Lucille	U. of Texas	MD 1946	Minneapolis General Hospital, Minneapolis Minn.
MARGOLIS, Philip Marcus	U. of Minnesota	MB 1948	Milwaukee Co. Hospital, Wauwatosa, Wis.
MILLER, Winston Rivard	U. of Kansas	MD 1943	Interstate Clinic, Red Wing, Minn.
NEILS, Vernon Emil	U. of Minnesota	MB 1948	St. Barnabas Hospital, Minneapolis, Minn.
NELSON, Clifford Edward	U. of Minnesota	MB 1948	U. S. Marine Hospital, San Francisco, Calif.
NEUMEISTER, Charles A.	U. of Minnesota	MB 1948	628 E. Franklin Ave., Minneapolis, Minn.
ORME, Harry William	U. of Minnesota	MB 1948	University of Minnesota Hospitals, Minneapolis 14, Minn.
ORME, James Forrest	U. of Chicago	MD 1940	5304 39th Ave. So., Minneapolis, Minn.
PASEK, Edward Antone	U. of Minnesota	MB 1948	St. Luke's Hospital, Duluth, Minn.
PERLMAN, Herschel Leon	U. of Minnesota	MD 1942	Veterans Hospital, Hot Springs, So. Dak.
PERRIGO, Vernon Fred	U. of Minnesota	MB 1948	Minneapolis General Hospital, Minneapolis, Minn.
PETERSON, Edward Alfred	St. Louis U.	MD 1947	649 Iglehart Ave., Saint Paul, Minn.
PFROMMER, Jr., John Robert	U. of Minnesota	MB 1948	Indianapolis General Hospital, Indianapolis, Indiana
PITTENGER, Rex Arthur	U. of Minnesota	MB 1948	Miller Hospital, Saint Paul, Minn.
PORTER, George Edward	Georgetown U.	MD 1945	Mayo Clinic, Rochester, Minn.
PROCHASKA, Leonard Joseph	Marquette U.	MD 1947	Baudette, Minn.
REIKES, Dan	U. of Minnesota	MB 1948	Sydenham Hospital, 565 Manhattan Ave., New York, N. Y.
RHOLL, Arnold Olin	U. of Minnesota	MB 1948	Northwestern Hospital, Minneapolis, Minn.
RUZICKA, Jr., Francis Frederick	Johns Hopkins U.	MD 1943	University of Minnesota Hospitals, Minneapolis, Minn.
RYAN, William Henry	U. of Minnesota	MD 1946	310 2nd St. S. E., Little Falls, Minn.
SALK, Richard James	U. of Minnesota	MB 1948	Ancker Hospital, Saint Paul, Minn.
SCHNEIDER, John Joseph	U. of Chicago	MD 1943	4148 Garfield Ave. So., Minneapolis, Minn.
SCHNEITER, Jr., Harry Edward	U. of Minnesota	MB 1948	Wayne Co. General Hospital, Eloise, Mich.
SMERSH, Thomas Clement	U. of Minnesota	MB 1948	St. Mary's Hospital, Minneapolis, Minn.
SONTAG, Stanley John	U. of Minnesota	MB 1948	St. Luke's Hospital, Denver, Colo.
STIMSON, Paul Reeve	U. of Cincinnati	MD 1947	Pontiac State Hospital, Pontiac, Mich.
STOWE, Harold Robert	U. of Nebraska	MD 1941	Mayo Clinic, Rochester, Minn.
STRONG, Charles Curtis	U. of Minnesota	MB 1948	628 E. Franklin, Minneapolis, Minn.
THORNTON, Mary	U. of Minnesota	MB 1948	St. Luke's Hospital, Chicago, Ill.
VIRNIG, Hildegard Josephine	U. of Minnesota	MB 1948	Wesley Memorial Hospital, Chicago, Ill.
WEST, Louis J.	U. of Minnesota	MB 1948	University of Minnesota Hospitals, Minneapolis, Minn.
WILLIAMS, John Irving	U. of Minnesota	MB 1948	Presbyterian Hospital, Chicago, Ill.

Name	*School*		*Address*
	Reciprocity Candidates		
ANDERSON, Thomas Page	U. of Oklahoma	MD 1943	Mayo Clinic, Rochester, Minn.
BLOOM, Norman Behr	U. of Minnesota	MD 1940	506 Physicians & Surgeons Bldg., Minneapolis 2, Minn.
CARROLL, Thomas Thurlow	U. of Illinois	MD 1943	Mayo Clinic, Rochester, Minn.
CLARK, Clarence Lawrence	St. Louis U.	MD 1940	5601 Grand Ave., Duluth, Minn.
FOULK, Jr., William Theodore	U. of Pennsylvania	MD 1942	Mayo Clinic, Rochester, Minn.
GOUDE, Albert Gordon	Col. of Med. Evangelists	MD 1948	c/o Dr. C. J. Martinson, Wayzata, Minn.
HINES, Robert Andrew	St. Louis U.	MD 1947	Wayne Co. General Hospital, Eloise, Mich.
HULME, Harold Benjamin	U. of Utah	MD 1944	University of Minnesota Hospitals, Minneapolis 14, Minn.
KOUTSKY, Carl Donald	U. of Nebraska	MD 1947	1044 Lowry Medical Arts Bldg., Saint Paul, Minn.
KURTH, Robert John	Creighton U.	MD 1946	Lenont-Peterson Clinic, Virginia, Minn.
MONSOUR, Karem John	U. of Nebraska	MD 1945	Mayo Clinic, Rochester, Minn.
PREWITT, Gordon	U. of Oregon	MD 1942	Box 302, Mayo Clinic, Rochester, Minn.
RECHLITZ, Ervin Thaddeus	Marquette U.	MD 1937	517 Triangle Drive, Albert Lea, Minn.
STORSTEEN, Kenneth Andrew	U. of Nebraska	MD 1945	Tyler, Minnesota
	National Board Candidates		
BOISCLAIR, Thomas George	Geo. Wash. U.	MD 1947	A. & P. Bldg., Washington Ave., Detroit Lakes, Minn.
HARVEY, Elinor Beatrice	Tufts Med. Col.	MD 1936	5601 Grand Ave., Duluth, Minn.
HILLS, Oscar Weir	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
KREISLE, James Edwin	Harvard U.	MD 1942	Mayo Clinic, Rochester, Minn.
WOOLLING, Kenneth Rau	Indiana U.	MD 1943	Mayo Clinic, Rochester, Minn.

PHYSICIANS LICENSED NOVEMBER 12, 1948

October 1948 Examination

Name	*School*		*Address*
ALLEN, Jr., Lewis George	U. of Kansas	MD 1945	Mayo Clinic, Rochester, Minn.
AUSTIN, Grover Wiggins	U. of Tennessee	MD 1944	Mayo Clinic, Rochester, Minn.
BASTRON, James Arthur	U. of Iowa	MD 1944	Mayo Clinic, Rochester, Minn.
BOYCE, Raymond Adolphe	U. of Minnesota	MD 1948	120 Seymour Ave. S. E., Minneapolis, Minn.
BRIDENBAUGH, Richard Baird	U. of Colorado	MD 1944	University of Minnesota Hospitals, Minneapolis 14, Minn.
BROWN, Ian Alexander	McGill U.	MD 1944	2444 N. Logan Ave., Minneapolis, Minn.
BURESH, Kenneth Lee	U. of Iowa	MD 1947	Lime Springs, Iowa
CHANCE, Donald Paul	U. of Virginia	MD 1943	Mayo Clinic, Rochester, Minn.
COMBS, Robert Gerald	U. of Cincinnati	MD 1943	Mayo Clinic, Rochester, Minn.
COOK, James Randel	U. of Indiana	MD 1944	Mayo Clinic, Rochester, Minn.
CRENSHAW, Jr., John Lewis	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
CROSS, Jr., Louis Lee	Georgetown U.	MD 1944	2111 Minneapolis Ave., Minneapolis, Minn.
CRUMPACKER, Edgar Lee	U. of Virginia	MD 1942	Mayo Clinic, Rochester, Minn.
CURTISS, Robert Kimber	U. of Maryland	MD 1943	Mayo Clinic, Rochester, Minn.
DAVIS, Robert Elwyn	U. of Pittsburgh	MD 1946	Mayo Clinic, Rochester, Minn.
DIEFENBACH, Jr., Eugene John	U. of Minnesota	MB 1948	Northwestern Hospital, Minneapolis, Minn.
DIEFENBACH, Jeanne Dahl	U. of Minnesota	MB 1948	Northwestern Hospital, Minneapolis, Minn.
DODGE, Jr., Henry William	Columbia U.	MD 1943	Mayo Clinic, Rochester, Minn.
ELLINGER, Albert John	U. of Minnesota	MD 1943	Northwestern Hospital, Minneapolis, Minn.
FAULKNER, James William	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
FEFERMAN, Martin Earl	U. of Michigan	MD 1946	601 Ridgewood Ave., Minneapolis, Minn.
GOODNOW, William Herbert	U. of Minnesota	MB 1948	University of Minnesota Hospitals, Minneapolis 14, Minn.
HOM, Leong Yale Woo	U. of Minnesota	MB 1948	St. Barnabas Hospital, Minneapolis, Minn.
HOOD, Jr., Robert Thurlow	U. of Pittsburgh	MD 1944	Mayo Clinic, Rochester, Minn.
JOLLY, Ruth Margarita	U. of Minnesota	MD 1948	318 Harvard St. S. E., Minneapolis, Minn.
JUDD, Allen Shelp	U. of Minnesota	MD 1946	1627 22nd Ave. N., Minneapolis, Minn.
KELLEY, Edmund Parmelee	Harvard U.	MD 1942	Mayo Clinic, Rochester, Minn.
KELSEY, Jr., John Roger	Baylor U.	MD 1945	Mayo Clinic, Rochester, Minn.
KEMP, Thomas Schreiner	U. of Minnesota	MD 1948	615 N. 4th St., Mankato, Minn.
KIMBROUGH, Robert Franklin	U. of Indiana	MD 1944	Mayo Clinic, Rochester, Minn.
KOENECKE, Jr., Fred Henry	U. of Minnesota	MB 1948	Minneapolis General Hospital, Minneapolis 15, Minn.
KRAKOWKA, George Frank	U. of Chicago	MD 1945	Mayo Clinic, Rochester, Minn.
LeMASTER, Theodore R.	U. of Indiana	MD 1947	Minneapolis General Hospital, Minneapolis, Minn.

PHYSICIANS LICENSED

Name	*School*		*Address*
LEWIS, Jr., Miles Leslie	Tulane U.	MD 1944	Mayo Clinic, Rochester, Minn.
LOWRY, Paul Thorpe	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.
McWHORTER, Henry Etten	U. of Chicago	MD 1944	Mayo Clinic, Rochester, Minn.
MOBERG, Thomas David	U. of Minnesota	MD 1948	5901 Oakland Ave. So., Minneapolis, Minn.
MOORHEAD, Marie	Ohio State U.	MD 1943	512 Delaware St. S. E., Minneapolis 14, Minn.
MORRISON, Roger William	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
NICE, Jr., Charles Monroe	U. of Kansas	MD 1943	P-58 University Village, 29th and Como, Minneapolis 14, Minn.
OPENSHAW, Calvin Reynolds	U. of Utah	MD 1944	Mayo Clinic, Rochester, Minn.
PHARES, Walter Shoemaker	Northwestern U.	MD 1946	Mayo Clinic, Rochester, Minn.
RAATTAMA, John Webster	U. of Minnesota	MB 1948	317 Union St. S. E., Minneapolis 14, Minn.
REED, Jr., John Porter	U. of Minnesota	MB 1948	1455 Fulham St., Saint Paul, Minn.
SANDS, James Howard	U. of Wisconsin	MD 1947	805 S. E. 7th St., Minneapolis, Minn.
SMITH, Philip Leroy	St. Louis U.	MD 1944	Mayo Clinic, Rochester, Minn.
STINSON, Jr., James Cotton	U. of Texas	MD 1945	Mayo Clinic, Rochester, Minn.
TWIDWELL, Joseph Edward	Creighton U.	MD 1948	St. Mary's Hospital, Minneapolis, Minn.
ULRICH, Delmont M.	U. of Minnesota	MD 1944	1700 University Ave., St. Paul 4, Minn.
UZMANN, John William	Georgetown U.	MD 1945	Mayo Clinic, Rochester, Minn.
WANDKE, Otto Edward	Northwestern U.	MD 1944	105 S. North Ave., Fairmont, Minn.
WIGGERS, Jr., Lowe Henry	U. of Cincinnati	MD 1942	Mayo Clinic, Rochester, Minn.

Reciprocity Candidates

BARNETT, George Louis	Creighton U.	MD 1947	Graceville, Minn.
BOLGER, James Victor	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
BROBYN, Charles Wilmer	Hahnemann Med. College	MD 1944	Fairview Hospital, Minneapolis, Minn.
CALLAN, Terrance Dennis	St. Louis U.	MD 1945	908½ 15th Ave. N., Virginia, Minn.
CANNON, Bland Wilson	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
CAPLAN, Leslie	Ohio State U.	MD 1936	1728 2nd Ave. S., Apt. 103, Minneapolis, Minn.
CHRISTIE, David Parker	U. of Nebraska	MD 1944	Mayo Clinic, Rochester, Minn.
EBY, Lee George	U. of Wisconsin	MD 1943	Mayo Clinic, Rochester, Minn.
ELLIS, Eugene Joseph	U. of So. California	MD 1944	Mayo Clinic, Rochester, Minn.
ERNST, Jr., Edwin Charles	St. Louis U.	MD 1943	Mayo Clinic, Rochester, Minn.
FRANK, Ludwig Mathias	U. of Pennsylvania	MD 1945	State Hospital, Rochester, Minn.
GARVEY, James Thomas	St. Louis U.	MD 1947	1313 Irving Ave. N., Minneapolis 11, Minn.
GOLDSTEIN, Oscar Emanuel	Cornell U.	MD 1941	5601 Grand Ave., Duluth, Minn.
HUGENBERG, William Charles	U. of Cincinnati	MD 1945	Mayo Clinic, Rochester, Minn.
JONES, David Griffith	Western Reserve	MD 1944	2418 W. 22nd St., Minneapolis 5, Minn.
KNIGHT, Charles Daniel	Tulane U.	MD 1944	Mayo Clinic, Rochester, Minn.
KNUDSON, Richard Arnold	U. of Louisville	MD 1945	Forest Lake, Minn.
LESTER, Jr., Malcolm James	U. of Louisville	MD 1947	Swedish Hospital, Minneapolis, Minn.
LOVSHIN, William	U. of Wisconsin	MD 1947	603 Grant Ave., Eveleth, Minn.
McCABE, James Stephen	U. of Louisiana	MD 1940	1927 Dayton Ave., Saint Paul 4, Minn.
MEADOWS, Edward Russell	Tulane U.	MD 1946	Mayo Clinic, Rochester, Minn.
MEYER, Bert Jack	U. of Wisconsin	MD 1945	Mayo Clinic, Rochester, Minn.
MORROW, Jr., Robert Prosser	Tulane U.	MD 1940	Mayo Clinic, Rochester, Minn.
SEALE, Ruth A.	U. of California	MD 1947	Mayo Clinic, Rochester, Minn.
SHARP, Merle Calvin	U. of Louisville	MD 1944	Virginia, Minn.
SOULE, Edward Hersey	Yale U.	MD 1943	Mayo Clinic, Rochester, Minn.
STEGMAIER, Jr., Otto Charles	St. Louis U.	MD 1943	Mayo Clinic, Rochester, Minn.
STEINER, Leon Ethelbert	U. of Nebraska	MD 1947	Albert Lea, Minn.
STREWLER, Gordon Jerome	U. of Wisconsin	MD 1943	600 Alworth Bldg., Duluth, Minn.
WEBB, James Hugh	U. of Cincinnati	MD 1945	Mayo Clinic, Rochester, Minn.

National Board Candidates

BECKER, Jr., Samuel William	U. of Illinois	MD 1947	Mayo Clinic, Rochester, Minn.
BELDING, III, Hiram Hurlburt	Northwestern U.	MD 1943	Mayo Clinic, Rochester, Minn.
BLOOM, Joseph	New York Med. College	MD 1932	Arrowhead Clinic, 5601 Grand Ave., Duluth, Minn.
COLE, J. P.	Columbia U.	MD 1944	Mayo Clinic, Rochester, Minn.
COOPER, Irving S.	George Washington U.	MD 1945	Mayo Clinic, Rochester, Minn.
DONAHOE, John Williams	Georgetown U.	MD 1943	Mayo Clinic, Rochester, Minn.
DUNCAN, Douglas Kennedy	Stanford U.	MD 1946	Mayo Clinic, Rochester, Minn.
EPPERSON, Dean Paul	Harvard U.	MD 1945	RR No. 4, Oconomowoc, Wisconsin
FITZPATRICK, Thomas Bernard	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.

PHYSICIANS LICENSED

Name	*School*		*Address*
HAUCH, Edward Wray	Northwestern U.	MD 1945	Mayo Clinic, Rochester, Minn.
HILL, Wallace C.	McGill U.	MD 1943	Windom, Minn.
JOHNSON, II, Andrew Beaumont	Johns Hopkins U.	MD 1945	Mayo Clinic, Rochester, Minn.
KEATES, Albert Edward	McGill U.	MD 1944	Mayo Clinic, Rochester, Minn.
LUCAS, John Edwin	Harvard U.	MD 1943	Mayo Clinic, Rochester, Minn.
McNAUGHTON, Robert Avery	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.
MORTON, Glenn H.	Syracuse U.	MD 1947	Mayo Clinic, Rochester, Minn.
NENNO, Robert Peter	Loyola U.	MD 1947	Veterans Administration Hospital, Minneapolis, Minn.
PEABODY, Jr., Homer David	Columbia U.	MD 1944	Mayo Clinic, Rochester, Minn.
RANDALL, Raymond Victor	Harvard U.	MD 1945	Mayo Clinic, Rochester, Minn.
RAYMAN, Mortimer Solon	Columbia U.	MD 1944	Two Harbors, Minn.
SCHAEFFER, William Andrew	Harvard U.	MD 1944	2805 Georgia Ave., St. Louis Park, Minn.
SNIVELY, George Gottshall	U. of Pennsylvania	MD 1945	P-62 University Village, 29th and Como Ave. S. E., Minneapolis, Minn.
WINBURN, Jr., James Randall	Columbia U.	MD 1944	Mayo Clinic, Rochester, Minn.

BRITISH MEDICAL TRAGEDY

The tragedy which has befallen the British medical profession under socialization offers a clear lesson on the dangers of government medicine to the United States, Warren H. Cole, M.D., a leading surgeon and a faculty member at the University of Illinois College of Medicine said in an address before the Employes' Benefit Association in Chicago, November 10, 1948.

Dr. Cole recently returned from a three-month stay in England as a member of an American Department of State medical mission. He made a thorough study of the effect of the new National Health Service Act during his work there.

"Any advantage that might be put forward to justify the operation of medical service by government is immediately neutralized by the fact that the quality of medical care promptly nosedives," Dr. Cole said. "There are several reasons why that happens."

"First, the number of office visits increases tremendously. That has already happened in England since the NHSA went into effect last July. Since doctors are already overwhelmed by present demands on their time, they obviously do not have time to examine all patients thoroughly. Unfortunately, the patient who makes the loudest complaint will be most likely to receive attention.

"Again, the doctor has no incentive to do good work. There is no financial reward in sight, and the stimulus of competition is eliminated. Even Russia realizes the value of competition in medicine.

"A third factor is that, when patients, thinking they are not paying for medical care, crowd the doctor's time with troubles they would otherwise disregard, the doctor becomes disgusted with practice and becomes lax in his vigilance for serious disease.

"Fourth, most doctors are unhappy and dissatisfied with socialized medicine, with resultant deterioration in their efforts. It is impossible to get good service from such doctors."

Another important and tragic result of socialization, Dr. Cole said, is the destruction of the doctor-patient relationship. Since the doctor has no incentive and is too busy anyway, he will not take the time to talk to a patient about his problems, especially those emotional and mental intangibles which affect health, but cannot be quickly identified as physical symptoms can.

Under government medicine, too, Dr. Cole continued, the patient in England has little choice of doctors. He can only ask for a specific doctor if that doctor's panel is not full.

Government's confiscation of hospitals in Britain destroys community interest in the institution, Dr. Cole said, while the increased demand for hospital beds by undeserving patients makes it more difficult for really sick persons to be accepted as patients.

Government medicine, aside from its evil effects, is not necessary in the United States, Dr. Cole said, though some form of compulsory medicine is part of the program of President Truman.

SELECTIVE SERVICE AND THE MEDICAL PROFESSION

(Continued from Page 1349)

the help of Army medical technicians. The Army has established a standard price for the services of the civilian doctor employed which consists of a maximum of $25.00 a day, or if more economical for the Army, $5.00 for a single examination, plus $2.00 for each additional examination on the same day. Fees for chest x-rays with interpretations are $5.00; without interpretation, $3.00. Interpretation of radiograph by a radiologist is paid for at the same rate of $25.00 a day, or $2.00 per film.

Should evidence of need for an examination by a psychiatrist become evident in the physical examination, a special neuropsychiatric examination is made. Psychiatrists are allowed $25.00 a day.

The Minnesota State Department of Health makes the serology examination.

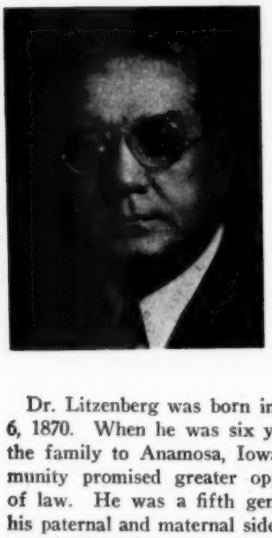
Superficial physical inspections are made at the time of induction, which is never less than twenty-one days after the pre-induction examination. These inspections are also made by civilian physicians who receive compensation if not over $25.00 per day, or at the rate of $1.00 per man.

It is the desire of the United States Government to utilize civilian doctors to the fullest extent in the examination of inductees, in order to keep at a minimum the need for doctors in the armed forces. Doctors and qualified psychiatrists are urged to offer their services to the Recruiting Centers.

In Memoriam

JENNINGS CRAWFORD LITZENBERG

An Appreciation



With the death of Dr. Jennings Crawford Litzenberg on August 15 of this year, one of the most illustrious careers in the history of Minnesota came to an end. A career distinguished by a long tenure of forceful teaching, eminent through service as a practicing physician in his community, and marked for its prominence in local, state, and national medical societies.

Dr. Litzenberg was born in Waubeek, Iowa, on April 6, 1870. When he was six years old, his father moved the family to Anamosa, Iowa, because the larger community promised greater opportunities in the practice of law. He was a fifth generation American on both his paternal and maternal sides. Both of his great great grandfathers fought in the Colonial Army during the American Revolution. His paternal ancestors came from Hanover, Germany, in 1700, and those from the maternal side (Crawford) arrived from Scotland, in 1730. In the succession of generations to follow, his family tree acquired Scotch Irish, English and Welsh graftings, so that with a characteristic witticism he could describe himself as, "A product of the American melting pot, in animal breeding parlance, a mongrel." Following the death of his father in 1890, at which time he had completed his primary education, Dr. Litzenberg and his mother moved to Minneapolis, Minnesota. In the autumn of that year he enrolled in the University of Minnesota, beginning a connection which lasted actively until 1938, when he retired from the Chair of Professor and Chief of the Department of Obstetrics and Gynecology, though he remained as Professor Emeritus until his death.

Dr. Litzenberg's intention upon entering the University was to follow his father's profession of law. However, in his second year, probably through the influence of three physician uncles, he switched from the classical course to the scientific, as a prerequisite for the study of medicine.

To envisage Hon. J. C. Litzenberg in the role of attorney and the station which his vigorous zeal, forthrightness and amity would have earned him, makes an interesting and fascinating conjecture.

After his graduation from the scientific course in 1894, insufficient funds prevented him from entering the Medical School immediately. He obtained the position of Superintendent of Schools in St. Louis Park, a suburb of Minneapolis, where he spent the next year. Then, through a fortunate turn of affairs, he was appointed the Educational Director of the Evening Schools of the Minneapolis Y.M.C.A., with a salary sufficient to provide for his matriculation in the Medical School. He retained this post for three years, during the last of which he acted as interim General Secretary. At the Y.M.C.A. he met the late Dr. L. J. Cooke, the Physical Director, who was shortly to be chosen by the Board of Regents as the Director of the University of Minnesota Gymnasium.

Upon accepting his appointment Dr. Cooke chose Dr. Litzenberg as an assistant, a position that he occupied for the next ten years. Such a background undoubtedly was the source of an interest in young men, athletics, and teaching, that he so vitally retained until the end: an interest, which was commensurate in vigor with the tremendous expansion of the University and the community. No man in the history of the Institution had such a prolonged prestige as was his. "Minnesota! Hail to Thee!" intoned in the beauty and the solemnity of a pipe organ, at his last rites, was the symbol of his life, so deeply and widely dedicated.

After receiving his medical degree in 1899, Dr. Litzenberg spent the next year as an intern in the Minneapolis General Hospital. It can be pointed out that considering the period and the locality, his formal education was far beyond the usual and accepted standard. At that time there were no required premedical courses. Nearly all of the students entered the Medical School directly from high school.

In 1900, he opened an office in Minneapolis where "I practiced more Economy than Medicine for a couple of years." At about this time he made his first formal appearance as a teacher in the Medical School as an assistant in Ophthalmology and Otology. He did not reveal what turned his interest, but in 1902 he became a Clinical Instructor in Obstetrics, the field in which he ever after remained pre-eminent.

In 1902, he married Elizabeth Fisher, of the Class of 1898, University of Minnesota. She bore him two children: Karl, now a Professor of English at the University of Michigan, and Avis, now Mrs. Chauncey G. Chase, residing in Minneapolis. This son and daughter have in turn become the parents of five grandchildren concerning whom, contrary to his usual reserve, there was no concealment of his pride. Photographs were reasonably available at all times with appropriate explanations as to each youngster's extraordinary characteristics.

"Liz" and "Litz" quickly became the emblem of the completely happy marriage. For his ideals she willingly sacrificed the added comforts that a greater continuity of practice could have brought to their home, and in return he eagerly embraced her ideals in the spiritual realm of church, music, and the home.

In 1907, after five years of service as an instructor

in obstetrics, Dr. Litzenberg was promoted to the rank of Assistant Professor. During this period, he and Mrs. Litzenberg became aware that further preparation was needed in order to aid the advancement of thinking in obstetrics and gynecology in the community. Consequently, in 1909, accompanied by their children, they departed for Vienna, where he studied under the great Dr. Schauta for two years, the latter of which was spent working intensively as a voluntary assistant. Upon his return to Minneapolis and the University he was made an Associate Professor in Obstetrics and Gynecology, an appointment that marked the first recognition by the University Medical School of the intimate relationship of these two subjects, and from this time the two have been taught together.

In 1913, Dr. George Edgar Vincent, the President of the University of Minnesota, who later became the Head of the Rockefeller Institute, shook the Medical School to its foundation by calling for the resignation of the entire faculty of the Medical School. He had a real conviction that the medical faculty was too large, contained too many general practitioners and too few trained teachers and investigators. In the subsequent reorganization of the Medical Faculty under Dean Westbrook, Dr. Litzenberg was invited to become the Professor and Chief of the Department of Obstetrics and Gynecology.

The appointment pleased him, but he always declared that it astonished him. However, where was there another with the foresight and the fortitude to prepare so diligently for an inevitable development? His ancestors first came to Pennsylvania, from whence they moved into Ohio, later advancing into Iowa. Was he through his heritage of expansion and pioneering not made sensitive to the potentialities of his environment? A community that during his lifetime increased tremendously in population and developed astoundingly in progress and culture.

Following the acceptance of his appointment he almost immediately returned to Europe for another year of study under Dr. Schauta in Vienna, and Dr. Bumm in Berlin. In his reminiscences he jokingly contrasted his first stay in Europe as a student with his later visit as a Professor—Hoch Professor—a status which required formal clothes, a silk hat and the appendage of a gold-headed cane.

Following his second return from Europe, Dr. Litzenberg undertook at once his teaching duties and the rebuilding of his private practice. At this time the Medical School of the University of Minnesota was, except for the University of Iowa, in the unique position of having the only complete medical course in what was then known as the Northwest States; a station which made it the center of influence not only in Minnesoa, but in the Dakotas, Montana, and considerable portions of Iowa and Wisconsin.

In 1927, when Dr. Litzenberg had reached the height of his career, an eminence which was shared mutually in the tradition of Christian marriage, Elizabeth Litzenberg died. To him this was nearly a catastrophic event. But, after the first shock, in which everything in life seemed to be gone, his measure of a man was exhibited. To their ideal, self was subjugated, and he strove alone toward their mutual goal as a living monument to honor the one who had meant the most to him.

His enthusiasm, force and clarity soon made Dr. Litzenberg one of the most sought-after medical speakers in this large area. In spite of the demands of his private practice and the duties of his formal teaching obligations, he accepted the invitations with remarkable buoyancy. To most men, the activities of practice, teaching, and speaking would have been sufficient to completely fill their lives, but to him it was not enough. He energetically undertook and accomplished creditable researches. To mention only some of them—he was the first to study the relationship between hypothyroidism and fertility; he made classical contributions to the understanding of tubal pregnancy; he interested himself in the problem of tuberculosis during pregnancy in his capacity of obstetrical consultant to the Glen Lake Sanatorium; and he studied the leukocytes in pregnancy. His bibliography, while not as large as those of some of his contemporaries, contained a quality of writing which was meditative, conservative, precise, forceful, and, on occasions, clairvoyant. His last major work was the volume, "Synopsis of Obstetrics," C. V. Mosby and Co., which he published in 1940 and which was re-edited in 1943.

It was not long before Dr. Litzenberg became the most prominent private practitioner in Minneapolis. He was devoted to his patients and, in turn, he was held in reverence by them. Simultaneously, he became a favorite consultant. To those with whom he consulted he was considerate and tactful. He was held in esteem as a consultant because of the respect he constantly exhibited for his conferee.

During World War I there were instances when he took over the care of the patient of a colleague who had entered the armed services. Upon completion of the case the fee was sent to the wife of the colleague. The occasions on which he assumed or shared the responsibility of the care of the relative of a colleague are innumerable. In 1920, he joined with a group of distinguished associates, all of whom held high positions on the teaching staff of the University Medical School, to form the Nicollet Clinic, an organization in which he remained active until shortly before his death. During World War II he sacrificed a life of semi-retirement to actively conduct the work of the Department of Obstetrics and Gynecology in the Clinic.

It was never obvious which gave Dr. Litzenberg the more gratification, his life as a practitioner with its multiple and varied contacts, or the activities of his academic life. In perspective, in his era when few if any academic-clinical careers existed, were they meant to be separated? Rather, was it not an integrated whole? Was the effect and force of his teaching not conditioned by an appreciation of the problems of the private practitioner gained through his own experience, and conversely, was his capability as a practitioner not enhanced by the stimulation he received through teaching and investigation? In these questions may be the answer to the conflict of ideas in the medical educational methods of today. Is the teaching of medicine

to be removed farther and farther from its practice through augmenting every department with more solely academic careers in which the present clinical academician ostensibly has his greatest interest, or are the teaching and practice of medicine to be component parts of a well-rounded whole?

Dr. Litzenberg's description of the four phases of a trend in medicine may be applicable. "First, there is the beginning or discovery of an idea. Secondly comes the phase of exploitation of the idea. Thirdly, there is a recession from the inevitable overexploitation of the idea, and finally there is the achievement of balance." May his life not represent the achievement of balance in medical education, however premature it was to the present time when many think that clinical-academic careers are overemphasized?

At the time Dr. Litzenberg ascended to the chair of obstetrics and gynecology, teaching was entirely for the benefit of the undergraduates, nearly all of whom expected to serve as practitioners in those parts of the community which the Medical School influenced. There were no residents. Internships were not a necessary requirement for the degree of M.D. until as late as 1920. Graduate study was undertaken almost entirely in Europe, especially Germany. Soon after its reorganization in 1913 the Medical School of Minnesota developed and adopted a system of Teaching Fellowships in order that graduate study in the various fields of medicine and surgery would be available in this country. Graduate students were required to take didactic courses; to perform supervised clinical work; to participate in teaching; and, in the end, to present a research thesis, the satisfactory completion of which led to the conferment of a Ph.D. degree. This was an innovation in medical graduate study in America and in its development Dr. Litzenberg played no small part. About a dozen men received their training in obstetrics and gynecology through this system while he occupied the chair. Of these, some have extended the impact of his teaching force as formal teachers in distant places; but the others have remained as specialist practitioners, teaching more indirectly through example and consultation.

The reduction in the maternal mortality rate may be the best expression of Dr. Litzenberg's strong influence in this community. At the time he accepted the chair of obstetrics and gynecology, the maternal mortality rate in Minnesota, although one of the lowest in the country, was almost 7 per 1000 live births. From here on there was an almost yearly decline in this mortality rate. In 1930 a marked diminution of the maternal mortality rate was noted, not only in Minnesota but in the adjacent states. That the influence of his powerful teaching was largely responsible for the decline is unquestionable, because it is estimated that by 1930, about one half of the practitioners in this area had been his students. Their handling of obstetrical problems must be considered as one of the major factors in this sharp lowering of the maternal mortality rate. The phenomenon has continued until Minnesota, in 1947, can boast of a record of 0.6 maternal deaths per 1000 live births, the lowest ever recorded in the country, if not the world. Although there are many other elements concerned with the lowering of maternal mortality rates, the effect on it by Dr. Litzenberg as an individual was made real through his medium of advanced training; by his cogent undergraduate teaching; through the instruction he gave as an indefatigable medical speaker; and by his ready willingness to aid a colleague.

While at first he took pride in the declining maternal mortality rates, he later became sensitive to the commendation given him for it. He was constrained to write: "Those interested in saving mothers said that the first thing to be done was to improve obstetric teaching. I gave my teaching life to this problem. Good teaching, however, was not the only factor. My staff was a unit in all-out endeavor to turn out young doctors constantly conscious of the possibility of saving mothers. I have been given too much personal credit for the improved teaching of obstetrics and gynecology in our Medical School. My staff deserves most of the credit, for all members were in accord in a determined effort to improve the teaching."

No more need be mentioned about Dr. Litzenberg's influence in this community except that it quickly drew national notice. In 1915 he was made a member of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, an organization that he served as president in 1933-34. In 1916 he was elected a Fellow of the American Gynecological Society. Twenty-five years later he was agreeably surprised by his election to this society's presidency. In the preceding year the Central Association of Obstetricians and Gynecologists saw fit to honor him by electing him its president. In 1927 he served as the chairman of the Section of Obstetrics and Gynecology in the American Medical Association.

In 1920 he was chosen as a member of a small committee of obstetricians and gynecologists to consider the establishment of an American Board of Obstetrics and Gynecology. This was prompted by a growing agitation in the medical profession, as a whole, for some method to identify the trained specialist, because the increase in the number of psuedospecialists who professed specialization not only in one field but in multiple fields had become alarming. In 1930, after ten years of careful study and investigation, this committee established the American Board of Obstetrics and Gynecology, one of the first of the various examining boards to come into existence. Dr. Litzenberg was elected to the board of nine as one of the three members from the American Gynecological Society, a post he retained until his resignation, in 1940.

Few men in the history of obstetrics and gynecology in this country have achieved such wide distinction or have been so signally honored by their confreres. He was truly our "giant of the North."

The attitude of those in his immediate community was shown by his election to the presidency of the Hennepin County Medical Society in 1918, and to the presidency of the Minnesota Academy of Medicine in 1932. In 1937, he was elected to the presidency of the Minnesota Obstetrical and Gynecological Society. The satisfaction he experienced from these choices was

as poignant as when he was honored by the national societies, and is best expressed in his following words, "I have prized these honors because they came from my home societies where the members knew my faults."

is Dr. Olga Hansen until six o'clock P.M. when she becomes Mrs. Litzenberg." Before long they were known simply as Olga and Litz. They shared their love and esteem with the families and friends of each,

UNIVERSITY OF MINNESOTA

TO

JENNINGS CRAWFORD LITZENBERG

IN RECOGNITION OF YOUR LONG AND DISTINGUISHED SERVICE TO THE UNIVERSITY OF MINNESOTA AND TO THE STATE, THE SENATE OF THE UNIVERSITY, THE PRESIDENT AND THE BOARD OF REGENTS PRESENT THIS CERTIFICATE AND EXPRESS THEIR GRATITUDE, ESTEEM AND AFFECTION YOUR NAME IS ALREADY ON THE ROLL OF HONOR OF THOSE WHO AS TEACHERS AND ADMINISTRATORS HAVE CONTRIBUTED TO THE DEVELOPMENT OF A GREAT UNIVERSITY HAVE ENRICHED THE LIVES OF COUNTLESS STUDENTS AND THROUGH THEM THE LIFE OF THE COMMONWEALTH YOU HAVE SERVED THE UNIVERSITY NOTABLY AND WELL AS

ASSISTANT PHYSICAL DIRECTOR	1897 TO 1907
ASSISTANT IN OPHTHALMOLOGY AND OTOLOGY	1900 TO 1902
CLINICAL INSTRUCTOR IN OBSTETRICS	1902 TO 1906
CLINICAL PROFESSOR OF OBSTETRICS	1906 TO 1910
ASSOCIATE PROFESSOR OF OBSTETRICS AND GYNECOLOGY	1910 TO 1913
PROFESSOR OF OBSTETRICS AND GYNECOLOGY AND HEAD OF DEPARTMENT	1913 TO 1938

L D Coffman PRESIDENT M. Nierenberg SECRETARY

GIVEN IN MINNEAPOLIS IN THE STATE OF MINNESOTA THE THIRTEENTH DAY OF JUNE IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND THIRTY-EIGHT

He was honored by membership in the Sigma Xi and Alpha Omega Alpha honorary fraternities.

However, the high point of the esteem in which he was held locally was expressed on the occasion of the appreciation dinner given for him upon his retirement from the chair in 1938. In all, about 250 physicians, all his immediate colleagues, attended this testimonial of their love and respect. In addition to an oil portrait painted by Edward Brewer, which was presented to the University and which still hangs in his former department, there were many messages of commendation. Of these, the one from President Vincent, the Head of the Rockefeller Institute, is the most expressive and important. "I think of you with pleasure and gratitude. You were always calm, wise, humorous, and a steadying influence. You had ideals of research, teaching, and organization, to which you were steadfastly loyal. In times of stress and strain you kept your head and your temper. You will carry with you the assurance that you have played an important part in making the University of Minnesota Medical School one of the best in the country."

In 1934, Dr. Litzenberg and Dr. Olga Hansen, a member of the Department of Medicine of the Nicollet Clinic, astonished many of their friends by a quiet marriage. The amazement was soon replaced by pleasure, however, as the compatability and devotion of the two became apparent. Each followed his or her respective careers in medicine and when the inevitable confusion of names took place they facetiously stated, "It just as each was the recipient of the affection and regard of the other's friends and families.

The concern of Dr. Litzenberg for the young man was shared by Dr. Olga. Because of the dearth of rooming facilities in the region of the University, they opened their spacious and comfortable home, located on the margin of the campus, to a number of students each year. The depth of the meaning which attended the privilege of this hospitality is best expressed in the words of one of those who benefited from it: "In many respects he meant more to me than my own father; certainly he opened vistas which would have been denied me had I not been privileged to make my home with him for four precious years. He helped instrumentally to set the pattern for my own life, and as with me so it was with many others fortunate enough to have come under his guidance. There are many like myself who, as they undertake their responsibilities of parenthood or preceptorship, will seek to perpetuate that spirit of integrity, good humor, generosity, reverence, and grace, of which he was such a rare embodiment."

What more could be said by one who is not in the realm of science, but who has achieved success in a field far removed?

No biographical sketch of Dr. Litzenberg, however short or long, could be finished without a eulogy to the devotion given to him by Dr. Olga Hansen Litzenberg; a devotion which, when the inevitable physical infirmities overtook him, grew progressively in proportion as

the infirmities increased. She accompanied him to medical meetings in which he retained a lively interest until the very end, often at considerable distances. In the last years of the recent war when he carried a load of work far beyond the capacity of most men of his years, she accompanied him when he responded to night calls from the hospital. In the home she was constantly solicitous of his comforts and pleasures. In spite of her own heavy burden of professional work she found time to arrange and attend social functions which he also enjoyed until the time of his death. Only a few can completely and selflessly accept the privilege of service and devotion. Of these few Dr. Olga Hansen Litzenberg is one.

The record of the attainments and achievements of a man is only an appraisal of his abilities. The real appreciation of a man can come only through contacts with the multiple facets of his character. To know Dr. Litzenberg was to love him! To know him more intimately by working under his guidance was to cherish him still more. He was humble about his own accomplishments, but he was openly proud when some degree of success or any mark of distinction came to any in whose lives he had had some influence. Likewise, he was hurt and sorrowful when some one of these met with adversity.

It is not unusual that his Fellows held him affectionately in regard as the Chief and that he was devoted to them as "his boys." Such is the tradition of the teacher and student. But, it is unusual that he welcomed and applauded the inroads they made into his personal interests as they expanded as practitioners. He was always helpful. His interest in the potential accomplishments of those he met wherever he went and the stimulation and aid he gave to them established him as the Chief to many who had not trained directly under him. One of these living in a city far removed could write, "I first met the Chief in Washington in 1922. Since then he has been a professional father to me. His friends understood that I was one of "his boys." I can't express how much "My boy" has meant to me all over the United States."

The Head of the Department of Obstetrics and Gynecology in the Medical School of a well known University wrote the following. "He was always intelligent and kind and never too busy to help us in the young days of our clinic here." Many similar expressions of gratitude came from all parts of the country at the time of his death.

It was natural that Dr. Litzenberg should be called "Litz" and sometimes "Litzie." In his daily life he was seldom addressed as Dr. Litzenberg. If one who knew him was in a distant place, and queries were made about various members of the local medical personages, almost invariably the first question asked was "How's Litz?" If others were asked about first, inevitably would come, "And how's Litzie?" He seemed to enjoy this abbreviation of his name and well he could because in it there was a connotation of affection and esteem. It could not violate the simple dignity that he was never without.

Courtesy was an inherent quality of the Chief, but during the period of the multiple demands of his most active life he could be brusque. If one were hurt by this paradox in his character, it did not last. With the next meeting complete assuagement came in his hearty and gracious salutation. On rare occasions he could be rude. He was repeatedly and openly boorish to a contemporary whose hidden principles he detested and which he had detected much earlier than had others. These incivilities were born of an outraged sense of propriety and were intolerable in his own straight and unpretentious way of thinking. He lived with a deep consciousness of the meaning of integrity.

Another of his inherent qualities was affability, but a violation of his deep sense of justice could produce strong indignation. At times he could forcefully voice his disapproval, but usually he contained himself in a significant silence. He could be highly tolerant of an error. On the other hand, a mistake, which to him implied omission, was inexcusable. Yet, whether in condemnation or in approbation, he was kindly.

He possessed a multiplicity of interests that could take him from the highest science of the lecture hall to an almost uninterrupted record of attendance at football games through many years. In his last years one would find him leaving the comfort of a warm home on a cold winter night to attend a lecture on some advanced scientific subject. On a Saturday when the short walk to the stadium had become a definite physical effort, he would brave the rigorous autumn weather to attend a football game. He challenged age to interfere with his participation.

He could discuss many subjects, some with brilliance and others always with competence. Yet he would never indulge in controversial topics. He appreciated a good story, but he was cold to "off color" yarns. He had wit, a faculty which made him a master of repartee in his earlier years. In his later years, as it was said of him in the Jennings C. Litzenberg Memorial Lecture, he had a chuckle which answered much.

The Chief is gone! To us who sat at his feet there can be no other Chief. He lighted a torch which we have striven to carry. He personified a great and rapid growth in obstetrics and gynecology. Through the medium of his own idealism he represented an ideal. He was Litzenberg—jocularly translated from German into English by himself—"A Light in the Mountains." *A bright light on a lofty height!*

CLAUDE J. EHRENBERG.

LEROY EDSON DOOLITTLE

Dr. LeRoy E. Doolittle, a well-known pediatrician of Duluth, died November 9, 1948, following a two weeks' illness.

Born in Genesco, Illinois, on March 8, 1883, Dr. Doolittle received his B.A. degree from the University of Minnesota in 1905 and his M.D. degree in 1909. In March, 1911, he married Bessie Kent.

After serving as a captain in the Medical Corps of the Army during World War I, he served as resident physician at the Children's Hospital in Boston from 1918 to 1920. He then located in Duluth and was medi-

cal superintendent of public schools for two years. His specialty was pediatrics and he was chief of pediatrics at St. Mary's Hospital in 1933.

Dr. Doolittle was a member of Phi Beta Pi medical fraternity, the Northwest Pediatric Society, the Central States Pediatric Society, the Academy of Pediatrics, the St. Louis County Medical Society and the Minnesota State and American Medical Associations. He was also a member of the Pilgrim Congregational Church, the Duluth Chamber of Commerce, and the Rotary Club.

Surviving are his widow; a daughter, Mrs. R. J. Hopkins of Duluth; three grandchildren, and a brother, Herbert E. Doolittle of Sioux Falls, South Dakota.

GEORGE BOODY

Dr. George Boody of Saint Paul passed away on November 11, 1948, at the age of ninety-three.

Born in Iowa, Dr. Boody practiced medicine in Iowa, Kansas, Alaska, Illinois, North Dakota and Texas before coming to Saint Paul thirty years ago.

Dr. Boody is survived by his wife; two sons, Hurd Boody of Saint Paul, and Dr. George Boody, Jr., of Dawson, Minnesota; a grandson; and a brother, Dr. Frank Boody of Eldora, Iowa.

FRANCIS E. GRISWOLD

Dr. Francis E. Griswold, a practicing physician at Hoffman, Minnesota, from 1899 until he retired from active practice two years ago, died November 1, 1948. He was seventy-four years old.

Dr. Griswold was born in Wisconsin Rapids, Wisconsin, March 21, 1874. He graduated from the University of Minnesota medical school in 1897 and took postgraduate work at the Post Graduate Polyclinic at Chicago in 1910.

Dr. Griswold is survived by his wife, Myra, two sons, Eugene F., of Minneapolis, and Myron W., of Crosby, Minnesota, and a daughter, Mrs. W. E. Clark of Minneapolis.

WILLIAM C. GULDE

Dr. William C. Gulde of St. Cloud died suddenly on October 28, 1948.

Dr. Gulde was born January 27, 1881, in Marshalltown, Iowa. He studied at Notre Dame University and graduated from Drake University medical school in 1907. He practiced at Bancroft, Iowa, before moving to St. Cloud.

He specialized in eye, ear, nose and throat diseases and was a member of the Stearns-Benton Medical Society, the Minnesota State and American Medical Associations. He is survived by his wife and a brother, Joseph F. Gulde, of St. Cloud.

JACOB ARTHUR JOHNSON

Dr. J. Arthur Johnson, of Saint Paul, died November 10, 1948, at the age of fifty-four.

Dr. Johnson was born December 20, 1893, in Saint Paul. He received his preliminary education at Minnesota College, and the degrees of B.S., M.B. and M.D. from the University of Minnesota in 1928. After graduation he interned at Ancker Hospital and served as resident at Mounds Park for six months. He was awarded the honorary degree of Alpha Omega Alpha as an undergraduate in medical school.

He was a member of the Gustavus Adolphus Lutheran Church, where he served as deacon for six years, and was in charge of compiling historical data for the anniversary book published on the fiftieth anniversary of the church. He was a member of the Ramsey County Medical Society, the Minnesota State and American Medical Associations. Unmarried, Dr. Johnson is survived by a sister, Mrs. Walfred G. Rohr of Saint Paul, and two nieces.

EARL F. JAMIESON

Dr. Earl F. Jamieson, of Brainerd, died suddenly of a heart attack on October 19, 1948, at the age of sixty-one.

Dr. Jamieson obtained his M.D. degree from the College of Physicians and Surgeons, Boston, in 1911, and specialized in eye, ear, nose and throat diseases.

He was a member of the Upper Mississippi Medical Society, the Minnesota State and American Medical Associations.

GARDNER SHAW REYNOLDS

Dr. Gardner S. Reynolds died in Saint Paul, October 16, 1948, at the age of fifty.

Dr. Reynolds graduated from the University of Minnesota Medical School in 1924 and practiced at Eau Claire, Wisconsin. He joined the staff of the Henry Ford Hospital, Detroit, in 1927. Later he became head of the x-ray department of St. Elizabeth's hospital, Danville, Illinois, until his resignation last April because of ill health.

Dr. Reynolds is survived by his wife, a son, Thomas, his mother, Mrs. Mae Reynolds, of Saint Paul, two sisters and a brother.

ALPHONSE E. WALCH

Dr. A. E. Walch of Minneapolis died November 14, 1948.

He was born in Rollingstone, Minnesota, February 19, 1907. He graduated from St. Mary's College, Winona, in 1929 and obtained his M.D. degree from St. Louis University Medical School in 1933. After interning at the St. Louis University Hospital, he took postgraduate training at the Minneapolis General Hospital from 1934 to 1936.

Dr. Walch was a member of the Hennepin County Medical Society, the Minnesota State and American Medical Associations, and was Clinical Assistant Professor of Medicine at the University of Minnesota medical school.

He is survived by his wife, Helen, a son and four daughters. His parents, Mr. and Mrs. Francis F. Walch of Rollingstone, and a brother, Ralph A. Walch of Le Sueur, also survive him.

✦ Reports and Announcements ✦

CHICAGO MEDICAL SOCIETY

The fifth annual Clinical Conference of the Chicago Medical Society will be held in Chicago at the Palmer House, March 1, 2, 3, and 4, 1949. The scientific program promises to be most outstanding with well-known speakers from all sections of the country discussing subjects which will be of interest to all physicians. Many scientific exhibits are being planned and the technical exhibits will be well displayed. Sufficient time will be given for viewing both of these exhibits.

One of the interesting features of the conference will be the luncheon round tables when questions will be answered by the speakers.

Physicians of other states and cities are cordially invited to attend this important medical meeting. Reservations should be made direct with the Palmer House.

UNIVERSITY COURSES IN OBSTETRICS AND OPHTHALMOLOGY

The University of Minnesota announces a three-day course in obstetrics for general physicians to be given at the Center for Continuation Study, January 6 through 8, 1949.

The University of Minnesota announces a one-week course in ophthalmology to be given at the Center for Continuation Study. The course is designed for ophthalmologists and will be presented during the week of January 24 through 29, 1949.

E. STARR JUDD LECTURE

The sixteenth E. Starr Judd Lecture will be given by Dr. Alton Ochsner, William Henderson Professor of Surgery at the Tulane University, New Orleans, Louisiana, Tuesday evening, January 18, 1949, at 8:15 in the Auditorium of the Museum of Natural History. Doctor Ochsner's subject is "The Treatment of Postphlebitic Sequelae by Vasodilatation and Other Measures."

The late E. Starr Judd, an alumnus of the Medical School of the University of Minnesota, established this annual lectureship in Surgery a few years before his death.

FREEBORN COUNTY SOCIETY

The Freeborn County Medical Society held a meeting in Albert Lea on November 4, and members heard a discussion of cancer by two University of Minnesota physicians. Dr. Arnold Kremen, of the cancer service of the University, spoke on cancer of the mouth and lips, while Dr. Robert A. Huseby, assistant professor of cancer biology, spoke on carcinoma of the breast.

During a business session, the Society selected Dr. F. W. Calhoun of Albert Lea as the outstanding general practitioner of the year from Freeborn County and voted to submit his name for the state nomination for the annual AMA award. Dr. Calhoun has practiced medicine for forty-one years.

SOUTHWESTERN MINNESOTA SOCIETY

At the annual meeting of the Southwestern Minnesota Medical Society, held in Worthington on November 1, Dr. John Lowman of Pipestone was elected president of the organization. Other officers named were Dr. Gerrit Beckering, Edgerton, president-elect; Dr. C. J. Pankratz, Mountain Lake, vice president; and Dr. B. O. Mork, Jr., Worthington, secretary-treasurer.

The principal speaker of the meeting was Dr. T. R. Fritsche, New Ulm, who presented an illustrated lecture on diseases of the eye.

The Society selected Dr. Ludwig L. Sogge, Windom, to be nominated for the honor of outstanding general practitioner in Minnesota.

WASHINGTON COUNTY SOCIETY

At a meeting of the Washington County Medical Society in Stillwater on November 9, the principal speaker for the evening was Dr. W. H. Thompson of Minneapolis. Dr. Thompson spoke on "Congenital Disease of the Hip" and illustrated his talk with numerous x-ray films.

PRACTICAL NURSE EXAMINATION

The Minnesota State Board of Examiners of Nurses will hold an examination for those applying for licenses to practice as Licensed Practical Nurses on Saturday, February 19, 1949, at 9:00 A.M. in the Mechanic Arts High School Auditorium, Saint Paul.

Completed applications for this examination accompanied by the fee of $7.50 must be in the office of the State Board of Examiners of Nurses, 222 Minnesota Building, Saint Paul 1, Minnesota, by January 19, 1949.

Fees must be paid by money order or bank draft; personal checks or cash will not be accepted.

Application blanks may be obtained from the board office.

CIVIL SERVICE POSITIONS FOR LABORATORY TECHNICIANS

Openings for medical laboratory technicians for positions for the most part in state institutions, are announced by the State Civil Service. Salaries range from $224 to $264 a month, and housing and board are obtainable at the institutions at a nominal cost.

Applications should be sent to the State Civil Service, Room 122, at the State Office Building, Saint Paul, Minnesota, before December 28, 1948. Examination will be held on January 8, 1949.

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RESEARCH IN THE SERVICE OF MEDICINE

SEARLE

Woman's Auxiliary

A PUBLIC RELATIONS PROGRAM FOR COUNTY AUXILIARIES

L. W. REMBER

Executive Assistant, American Medical Association

AS A NOUN, Webster says, "Auxiliary means a helper; an assistant." As an adjective, it means "in a helping manner." This is public relations in its finest sense; helping your doctor husbands to practice medicine in a *free* society; helping yourselves because you grow and gain great satisfaction from your achievements and contributions; helping your community get better medical care and medical services which brings it peace of mind and stamps out its fears.

Another definition which makes an excellent mental gymnastic for this morning's session is that of "Medical Public Relations."

Medical Public Relations is that function of the profession which evaluates public attitudes, identifies the policies and procedures of the profession with the public interests, and executes a program of action to earn public understanding and acceptance.

We can all agree, I believe, that this statement sounds mighty good and that the function of public relations deserves the wholehearted and continuous support of the medical profession and of the auxiliary. But this statement will only remain a group of beautiful words and noble phrases unless we translate it into action. Only action will earn public approval and public support for our goals.

It is highly commendable that your 26 county auxiliaries have already made great strides in effecting a program of action. But your being here today evidences that you are not the type of human being that is content to become mired in yesterday's achievements.

And so you have come together to expand your public relations activities and to refine your good-will-building techniques and methods.

In undertaking a program of public relations of any kind, it is necessary first to determine the nature and number of your publics. Otherwise you will not be in a strong position to serve them or to influence them.

An auxiliary to a county medical society, as I see it, has seven publics: two of them are in the area of *internal* relations and five of them are in the area of *external* relations.

Your *first* internal public is your own membership.

Your original purpose in being organized, as I understand it, was to promote companionship and sociability among wives of doctors. This is a noble public relations purpose. This association inclines you to feel kindly toward, and to speak well of, doctors' wives and of their husbands. This aids the profession.

Looking on the other side of the coin, when you speak ill of another doctor or of another doctor's wife, you injure the profession and every member of the profession, including your own husband. It is reassuring that the same charge cannot be made about doctors and doctors' wives in Minnesota, and in America generally, as was written about English doctors in explaining why they succumbed to socialized medicine.

Elizabeth Wilson is an outstanding American authority on compulsory health insurance. Recently she went to England to study first-hand why the British doctors were knocked out on July the fifth. In an appraisal letter to Dr. George F. Lull, our general manager and secretary, she said:

It is very enlightening to see the different cliques among the doctors. I think that is the basic reason they failed—too much jealousy, too much individualism, too little co-operation. On the other hand, the government people, who are giving me quite a rush, work as one team. American doctors better take notice.

All of you fully appreciate, I'm sure, that one of the primary public relations responsibilities of auxiliary members is to cultivate and to maintain good will among the membership.

Another major membership responsibility in the area of internal relations is that of being informed about auxiliary affairs and aims; not only in reference to your own local unit, but also in reference to your state auxiliary and to your national auxiliary. Leaders particularly must keep informed. This, all of you are doing, I assume, by attending meetings regularly and by reading carefully through your local, state, and national bulletins, news letters, and special sections in the medical journal.

I might say here that this School of Instruction which you are holding here today is a splendid example of public relations indoctrination. In fact, I think it is unique, and the first I know of among state auxiliaries anywhere in the nation.

Public-relations-wise, it is important that this and all other valuable information which you acquire go beyond your own head and that it be funneled into the minds and motivations of your county auxiliary members. As Presidents, Secretaries and Committee Chairmen, you are the logical go-betweens. And if these ideas and this information do not pass on through you to them, they won't go anywhere. They'll just rust. And so might your county auxiliary!

Your *second* internal public consists of the county, state and national medical societies of which your husband is a member.

This is especially true because you have added to the original Auxiliary purpose of "promoting friendship

(Continued on Page 1370)

Delivered at the School of Instruction of the Woman's Auxiliary to the Minnesota State Medical Association, Minneapolis, Minnesota, September 24, 1948.

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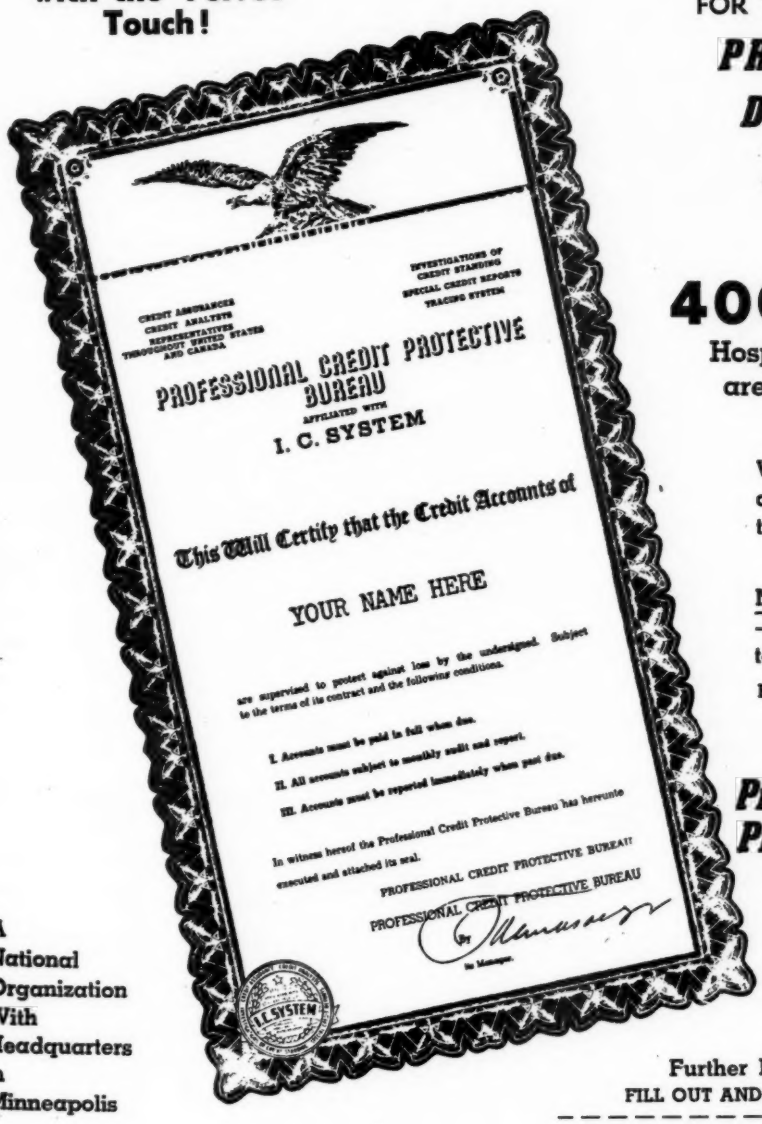
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(Continued from Page 1368)

and mutual understanding among members." You have become aware of the expediency and desirability of encouraging happy situations and good will among all people. And so, your public relations chairman and your entire Auxiliary are seeking ways of "building a firmer relationship between the medical profession and the public."

Sound public relations naturally requires that Auxiliary members cannot say one thing and Medical Societies another in their public utterances and in their aims. There must be unity—of goal, of expression, of action. There is ample evidence that you people in Minnesota are fully aware of this. It is obvious from the program scheduled today that the State Medical Association and your State Auxiliary are working together most closely and co-operatively.

The fact that Dr. A. E. Cardle, president, Dr. E. M. Hammes, president-elect, Dr. Reuben F. Erickson, public policy committee chairman, and Dr. Paul C. Leck, Chairman on Rural Medical Service, are all appearing on this program shows that you are functioning as a team. This indicates that you appreciate that the public relations of the medical profession is the doctor's first responsibility, and that of necessity they must guide and approve of your public relations activities.

Commendable also is the closeness with which your State Auxiliary and Mr. Rosell worked in planning and developing this splendid program of today. I can say from past experience that I know that the Executive Secretary of the Minnesota State Medical Association has an unusual understanding of what is good public relations. The teaming up of his office with your School of Instruction Committee was bound to achieve a winning public relations touchdown.

At National Headquarters, Mrs. Kice and your national Board of Directors are co-operating most smoothly and effectively with President Dr. Roscoe Sensenich, President-elect Dr. Ernest Irons, the entire Board of Trustees chairmanned by Dr. Elmer Henderson, and General Manager and Secretary Dr. Lull. Dr. Edward L. Bortz, who served as President of the AMA during the past year, made the statement in Cleveland this January that "The Auxiliary is now beginning to assume its rightful role. It represents probably our most effective instrument in the field of public relations, which, unfortunately, has been the most neglected."

Your national auxiliary secretary, Mrs. Margaret Wolfe, has her offices in the AMA headquarters and is most helpful and co-operative. This same harmony and singleness of purpose operating at your state and national levels exists, I'm sure, between your county auxiliary and your county medical society.

These then are your two internal publics: your membership; and your county, state, and national medical societies.

We have already talked about the need for being informed about auxiliary affairs and aims. It is equally necessary that we keep informed and abreast of medical society activities and objectives. President Sensenich recently stated this well when he said: "As with all physicians, the first need for the members of the Auxiliary is to keep thoroughly informed of the issues which confront us."

The Journal of the American Medical Association, your own state journal, MINNESOTA MEDICINE, and

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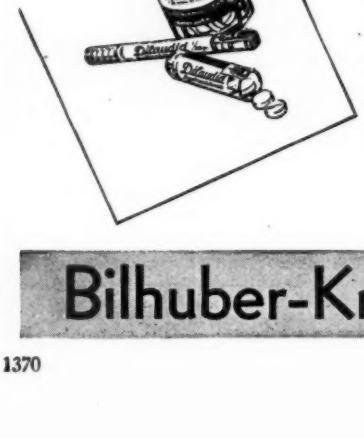

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other medical periodicals and literature are excellent means of keeping authoritatively and currently informed.

This now brings us to the area of *external* relations, in which you, as an auxiliary to your county medical society, have five publics.

The *first* of these publics is the general public.

The medical profession has great need of the support and good will of the general public. It is the individual man and individual woman who make up the general public who will eventually by their cross on the ballot determine whether doctors are to practice under a voluntary or a compulsory system. The general public likewise through their legislative representatives will dictate what is done about animal experimentation, intrusion of third party between doctor and patient in the practice of medicine, status of medical cults, level of doctor income, amount of funds appropriated for research, education, and public health, and many other matters of vital importance to doctors and, therefore, wives of doctors.

The attitudes and opinions which members of the general public hold toward you as Mrs. Doctor will transfer itself for good or for harm to your doctor husbands. The admirable qualities of human nature such as kindness, tolerance, friendliness, and so forth will win friends. The objectionable qualities of personality such as high-hattedness, indifference, bigotry, and so forth will create enemies. In fact, whatever you say or do functions in tipping the scales one way or the other.

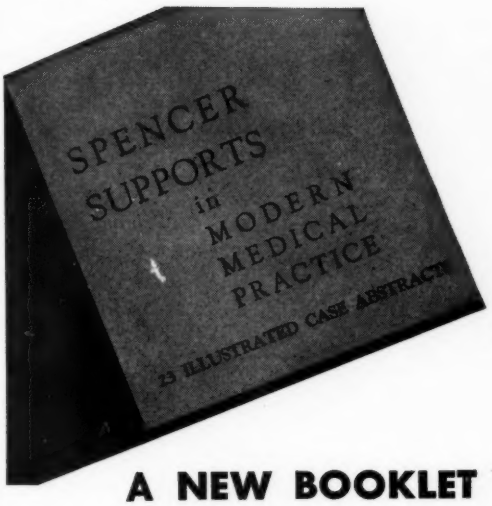
The number of people whom you will, or you can, contact individually and personally are limited, however. Consequently, it becomes necessary to seek some other means of reaching the masses, or the vast majority of people, who make up the general public.

This you can accomplish by employing the mass channels of communication and persuasion. These channels are your *second* external relations public.

They consist of your county newspapers, your county radio stations, your county magazines, house organs, and news letters, literature and other direct mail, your speakers' bureau, exhibits, films, and teachers, preachers, and other mass opinion leaders. On your program this afternoon, you have some outstanding representatives of some of these mass media of communication and persuasion, among them Dr. Thomas G. Hull of the A.M.A. who will talk on exhibits and films.

In your county auxiliary membership, you have undoubtedly found someone already who has an aptitude for writing, a sense of news, and who generally is awake to, and is capable of, taking advantage of public relations opportunities. No matter how talented this person is, however, there is little she can accomplish unless your county auxiliary is carrying on activities and achieving results in the public interest which are worthy of publicizing.

This brings you to the matter of program. Because you are doctors' wives and are serving as liaison between the medical profession and the public it is only logical, and certainly it is most effective, that your program operate in the field of health.



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Your state membership is now eighth in the nation; and the number of county auxiliaries organized in your state exceeds that of 36 states. You have some splendid programs already functioning, and excellent new activities are on the drawing boards and will soon be ready to be launched.

Your regional health days are especially commendable. You are covering every section of your state with the health education schedule you have set up. I understand that the regional health day at Worthington last February brought in over 1,500 persons from the surrounding community. The featuring of both lay and professional health authorities on your program, and the inclusion of Governor Youngdahl, are excellent public relations, as is, of course, the event itself.

The laying of the foundation for the formation of local health councils for concrete community planning is another highly worthy public relations objective of health days. I am happy that I shall have the opportunity this afternoon to hear the procedures and techinques for planning these days discussed by Mr. William Griffiths.

You have conceived and carried out many other health education and health advancement programs which have contributed to the public welfare and which have served to identify and credit the medical profession with improving community health. These consist of aiding in nurse recruitment, giving leadership in campaigns on behalf of March of Dimes, Red Cross, Community Chest, Crippled Children, Christmas seals, cancer research, hospital building and equipment, social and mental hygiene, and preschool examinations.

You have informed yourselves about prepayment of medical and hospital bills, about socialized medicine, and other health problems and have spread and passed this knowledge on to the public or to special groups within the general public.

You have promoted health education by increasing the reading of *HYGEIA*.

You continue to serve as health chairmen of important groups organized primarily for other than health purposes and you wield your knowledge and your influence among their members in other ways and capacities.

In doing all of this you are functioning in the external relations area of *two other* key publics: organized health groups; and organized non-health groups.

The *fifth* vital public in the area of external relations is government.

Keep your eyes well peeled upon your city government, your county government, your state government, and your national government. Raise your voice, cast your ballot, organize others to strike down whatever public action or proposed legislation deteriorates health, and to support all that which advances health and the medical profession.

But make sure that the voice of medicine is speaking as one!

Remember all of your publics: your own membership, your medical societies, your community generally, your

Fifth CHICAGO MEDICAL SOCIETY ANNUAL CLINICAL CONFERENCE

March 1, 2, 3, 4, 1949

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channels, other health groups, non-health groups, and your government. Learn and master the nature of each. Then serve them and motivate them so that the medical profession, and the public as well, will be benefited at all times.

Public relations requires stick-to-itiveness, just like raising kids or achieving suffrage. Women never say die and they seldom die young. This is all to your public relations' good.

Your husband doctors have the patients, spelled "p-a-t-i-e-n-t-s." And, if I understand at all you women leaders here today, you will have the patience, spelled "p-a-t-i-e-n-c-e," to achieve your public relations goals.

REGIONAL ADVISORS' TASKS OUTLINED

Hester Douglas Hammes

At the September meeting of the Woman's Auxiliary to the Minnesota State Medical Association, a round-table discussion was held by the regional advisors as part of the Workshop program.

The purpose of this discussion was to clarify and define, insofar as possible, the duties of the regional advisors. In the first place, the appointing of regional advisors was primarily intended to establish a closer contact between the state president and the county auxiliary presidents.

Ours is such a large state that it is almost impossible for a president from one section of Minnesota to know all about the background, difficulties, and problems of all the other parts of the state. To facilitate this closer tie-up between the state president and the outlying county auxiliaries, it was decided to divide Minnesota into nine districts, identical with the nine council districts of the State Medical Association. The doctors have found this particular division of the state satisfactory, and the Auxiliary thought it best to follow their example.

Now, with a regional advisor in each of the nine sections of Minnesota, a president can keep in touch with every individual auxiliary and so, because of the regional advisors, she can handle her office of State President with greater understanding and efficiency. Another important duty of the regional advisor is to work with the president-elect, who is also the organization chairman.

The advisor could be a very great help in getting preliminaries ready when a new auxiliary is to be organized in her district. She could strengthen doubtful auxiliaries and give help and advice to newly organized auxiliaries. The suggestions for this assistance should always come from the president and president-elect, who undoubtedly would be only too glad to profit from the greater knowledge at the disposal of the regional advisors.

As the State Medical Auxiliary has no executive secretary, I would suggest that each county auxiliary president, or her secretary, always send notices of the

next meeting to the regional advisor in time for her to plan ahead and arrange to attend the meeting, if possible.

It would be a splendid idea if the regional advisor could call a meeting of all the auxiliaries in her district once a year. It would give an opportunity to have an educational program. The State Medical Association office is always willing to send a speaker, if desired. This joint meeting would enable the women of different auxiliaries to get to know each other better and to exchange ideas, which would be of benefit to them all.

As can readily be seen, the position of regional advisor is no sinecure, but it is important. The future helpfulness of these advisors depends largely upon the tact they employ in being of assistance to the Association president and auxiliary presidents. I feel certain they will be of increasing usefulness to the organization and, in so doing, I wish them every success.

PRESIDENTS' ROUND TABLE BRINGS INFORMATION EXCHANGE

Mrs. John J. Ryan

A round table for county presidents was initiated at the Auxiliary Board meeting, held at the Radisson Hotel, September 26. Mrs. John J. Ryan, a past state president, served as moderator. Matters of mutual concern came up for discussion and, while nothing was settled, one could visualize the great benefit to be derived from future round-table meetings.

It was interesting to note that problems of the county societies are varied. The smaller counties have distance and weather to contend with, and the larger counties have other problems. An informal meeting, such as this, enables the members to become better acquainted, and constructive criticism was given as each one was called upon. This is truly a step in the right direction, and Mrs. Harold Wahlquist, state president, deserves much credit for her foresight in planning such meetings.

CLAY-BECKER GROUP REORGANIZES; PLANS YEAR

A reorganization meeting of the Clay-Becker Medical Society Auxiliary, attended by Mrs. Harold Wahlquist, state president, led to a new program of action for the coming year. The women have set these goals for themselves: sponsoring a nursing and teaching recruitment project, hiring a therapist to help patients at the Sand Beach Sanatorium, and holding a Health Day program. The doctors' wives will also plan for the sale, at Moorhead, Hawley, and Detroit Lakes, of articles made by the Sand Beach patients.

New officers for the Auxiliary, elected at the reorganization meeting, are: Mrs. C. W. Moberg, Detroit Lakes, president; Mrs. Oliver Moorhead, vice president; and Mrs. R. R. Hendrickson, Lake Park, secretary.

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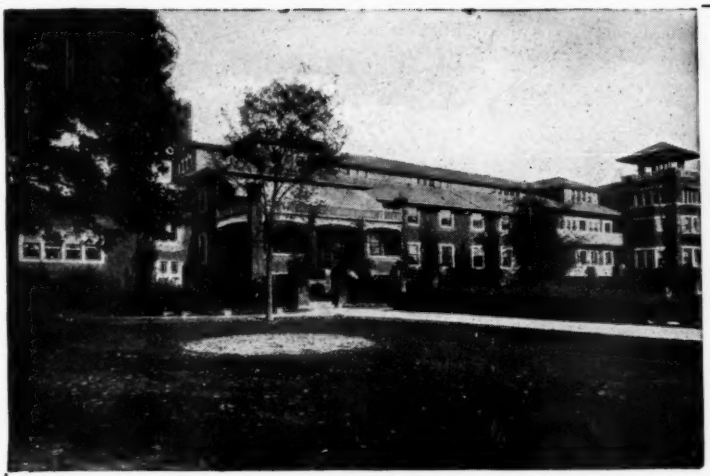

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MOWER COUNTY GROUP BUSY WITH BANDAGES

Mrs. Paul Leck

The Auxiliary to the Mower County Medical society holds eight meetings a year, for which there is a planned program. There is always a supply of cancer dressings to keep hands busy, as well as minds.

The Auxiliary met October 25, at the home of Mrs. C. C. Allen, with Mrs. Harold F. Wahlquist, president of the State Auxiliary, as guest. She outlined the program of activities of the State Auxiliary and impressed upon the members the importance of sustained interest. The program of activities for the winter season will be considered at the next meeting.

NEW AUXILIARY IN McLEOD COUNTY

Mrs. A. M. Jensen

McLeod County doctors' wives recently organized the McLeod County Medical Auxiliary. Plans have been made to hold meetings the same evening that the doctors meet.

Officers for the coming year are: Mrs. A. M. Jensen, Brownton, president; Mrs. John Gridley, Glencoe, vice president; Mrs. L. L. Kallestad, Brownton, secretary-treasurer.

Cook County Graduate School of Medicine

ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technique, two weeks, starting January 24, February 21.
Surgical Technique, Surgical Anatomy and Clinical Surgery, four weeks, starting February 7, March 7.
Surgical Anatomy and Clinical Surgery, two weeks, starting February 21, March 21.
Surgery of Colon and Rectum, one week, starting March 7, April 11.
Surgical Pathology every two weeks.

GYNECOLOGY—Intensive Course, two weeks, starting February 21, March 21.
Vaginal Approach to Pelvic Surgery, one week, starting February 14.

OBSTETRICS—Intensive Course, two weeks, starting March 7.

MEDICINE—Intensive Course, two weeks, starting April 4.
Personal Course in Gastroscopy, two weeks, starting March 7.

PEDIATRICS—Intensive Course, four weeks, starting April 4.

DERMATOLOGY—Formal Course, two weeks, starting April 18.
Clinical Course every two weeks.

CYSTOSCOPY—Ten-Day Practical Course every two weeks.

ROENTGENOLOGY—Lecture and Diagnostic Course, two weeks, starting the first Monday of every month.
Clinical Course starting third Monday of every month.

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Of General Interest

"Blackout in Aviators" was the title of an address given by Dr. Earl H. Wood, Rochester, at a meeting of the Kiwanis Club in Mankato on November 1.

* * *

Dr. G. J. Plattes terminated his practice with Dr. A. F. Giesen in Starbuck in October and left for California to open a practice in that state.

* * *

Dr. R. W. Backus, of the Nopeming Sanatorium, spoke on the tuberculosis situation in St. Louis County at a public meeting in Biwabik on November 10.

* * *

Principal speaker at a meeting of the Renville County Medical Society in Olivia on October 19 was Dr. H. F. Flanagan of Saint Paul.

* * *

Dr. F. H. Krusen, Rochester, has been elected a member of the board of directors of the Minnesota Society for Crippled Children and Adults.

* * *

Among Duluth physicians attending a meeting of the Central Society for Clinical Research, held in Chicago early in November, were Dr. William D. Coventry and Dr. Samuel H. Boyer, Jr.

In International Falls, it was announced in October that Dr. C. C. Craig had been appointed city health officer to succeed the late Dr. M. E. Withrow.

* * *

Dr. F. W. Behmler of Morris was elected first vice president of the Minnesota Public Health Association at its annual meeting in Saint Paul on October 8.

* * *

During the middle of October, Dr. E. L. Tuohy of Duluth delivered a series of lectures at a postgraduate course held in the General Hospital in Atlantic City.

* * *

On November 2, Dr. A. R. Barnes, chairman of the board of governors of the Mayo Clinic, spoke at a meeting of the Rochester Ministerial Association on the subject, "Structure of the Mayo Organization."

* * *

Speaking at a Rotary meeting in Little Falls on October 28, Dr. A. B. Rosenfield, director of the division of maternal and child health, Minnesota Department of Health, discussed "Health of Our School Children."

* * *

Dr. and Mrs. E. J. Engberg of Faribault entertained members of the Rice County Medical Society and their

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wives at a dinner on November 1. About fifty persons attended the dinner, after which motion pictures were shown.

* * *

In Norwood, early in October, Dr. Joseph Selmo moved into a newly decorated and better equipped office on the second floor of a local drug store. Dr. Selmo has practiced in Norwood for eight years.

* * *

The Wright County Medical Society met at the home of Dr. J. J. Catlin in Buffalo on October 26 to hear a talk by Dr. O. W. Scholpp, principal speaker of the evening.

* * *

Dr. Harold S. Diehl, dean of medical sciences at the University of Minnesota, has been named to an eleven-man advisory board for the United Mine Workers' welfare and retirement fund.

* * *

The Mayo Clinic was represented by five staff members at the meeting of the American College of Surgeons in Los Angeles during October. Participating in the meeting were Dr. J. H. Grindlay, Dr. J. B. Erich, Dr. G. B. New, Dr. J. T. Priestley and Dr. G. M. Roth.

* * *

A former Rochester resident, Dr. Donald G. Tollefson was named first vice president of the American College of Surgeons at its thirty-fourth clinical congress in Los Angeles on October 21.

Dr. O. J. Esser, formerly associated with the Hoidale-Workman Clinic in Tracy, opened offices for the practice of medicine in New Ulm on October 25. Dr. Esser specializes in diseases of the eyes, ears, nose and throat.

* * *

Among speakers at the South Central Minnesota Health Day, held in Mankato on October 13, was Dr. A. D. Mattson, St. James, who discussed "Better Medical and Hospital Care for Rural Communities."

* * *

Dr. W. L. Benedict, Rochester, was re-elected executive secretary-treasurer by the American Academy of Ophthalmology and Otolaryngology at its meeting in Chicago on October 15.

* * *

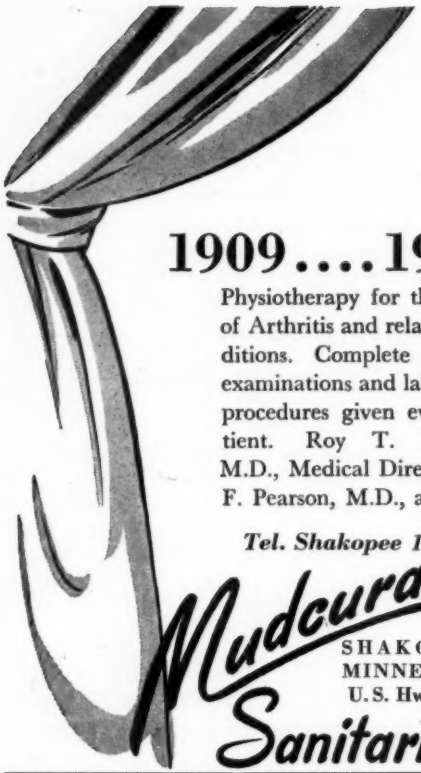
Among northern Minnesota physicians attending a meeting of the Minnesota Society of Internal Medicine in Rochester on October 18 was Dr. R. O. Sather of Crookston.

* * *

Dr. and Mrs. C. G. Uhley and Dr. and Mrs. O. K. Behr, of Crookston, spent the month of October in California, where they attended medical meetings and visited numerous cities of the state.

* * *

It was announced early in October that Dr. James R. Fox had moved his offices from 806 Physicians and Surgeons Building to 1325 Mount Curve Avenue, Minneapolis.



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Dr. Donald H. Peterson, Saint Paul, has become associated with Dr. J. Richards Aurelius in the practice of radiology, with offices at 1355 Lowry Medical Arts Building, Saint Paul.

* * *

Two of the Minnesota physicians who attended a continuation course on gastroenterology at the University of Minnesota, October 21 through 23, were Dr. Ralph Wenzel, Albert Lea, and Dr. H. J. Nilson, North Mankato.

* * *

Dr. Oliver E. H. Larson, after his discharge from the Army, opened offices for medical practice in Zumbrota in October. A graduate of the University of Minnesota Medical School, Dr. Larson served his internship at the Good Samaritan Hospital in Portland, Oregon.

* * *

Included in the speakers at the first annual meeting of the Mille Lacs County Nursing Service, held in Milaca on October 4, were Dr. R. N. Barr, of the Minnesota Department of Health, and Dr. E. J. Simons, Little Falls, health officer of District No. 8.

* * *

Eighty-five physicians from Nicollet, Le Sueur and Blue Earth Counties, while attending a meeting of the Tri-County Medical Society in New Ulm on October 12, heard Dr. E. M. Hammes of Saint Paul speak on the diagnosis and treatment of head injuries.

* * *

Dr. Erling S. Platou, Dr. Allan J. Hill and Dr. Albert J. Schroeder have announced their association in the practice of pediatrics, with offices at 953 Medical Arts Building, Minneapolis, and at 3920 Sunnyside Avenue, Edina.

* * *

Dr. Margaret C. Anderson announces the opening of practice in anesthesiology. Dr. Anderson is a Diplomate of the American Board of Anesthesiology and may be reached through the Physicians Exchange in the Twin Cities or by telephone: Drexel 8932.

* * *

Dr. C. Anderson Aldrich, director of the Rochester Child Health Project, was honored by being given the Lasker Award, it was announced in October, for outstanding contributions to the education of physicians in the psychologic aspects of the practice of medicine.

* * *

In Glenwood, construction work on a new clinic building for Dr. Edward M. Elsey is expected to be complete by January 1. The one-story building provides space for a reception room, two offices, three consultation rooms, a laboratory, x-ray room, two storage rooms, a kitchen and a recreation room.

* * *

Dr. T. L. Davis, Jr., after completing a postgraduate course in ophthalmology and otolaryngology at the Chicago Eye and Ear Hospital, returned to Wadena about November 1 to resume practice with the other staff members of the Davis Clinic. Dr. Davis graduated from the University of Minnesota Medical school in 1946.

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Dr. A. C. McKean, of the Fergus Falls State Hospital, left on October 28 for Hot Springs, Arkansas, where he has purchased a home and plans to spend the winter. At the time of his departure, it was not definitely known whether or not he intended to return to Fergus Falls in the spring.

* * *

Dr. and Mrs. A. C. Baker, Fergus Falls, combined a vacation trip in October with Dr. Baker's desire to attend the meeting of the American College of Surgeons in Los Angeles. After attending the meeting and visiting friends in southern California, they returned to Fergus Falls on October 26.

* * *

Dr. Edward Dyer Anderson, Minneapolis, was the principal speaker at the first 1948-49 meeting of the Southwest Parent-Teachers Association in Minneapolis on November 4. Dr. Anderson, a psychiatrist, discussed normal and abnormal emotional characteristics of adolescent children.

* * *

Speaking at a meeting of the Coleraine Women's Club on October 4, Dr. J. L. McLeod of Grand Rapids described his impressions and observations of eight South American countries which he visited while serving as a delegate to the Rotary International Convention in Brazil.

* * *

"Complications in Children's Disease and How to Avoid Them" was the title of a talk given by Dr. Robert Rosenthal, Saint Paul, at a meeting of Section 1 of the Child Psychology Study Circle in Saint Paul on October 4. Dr. Rosenthal is a clinical assistant professor of pediatrics at the University of Minnesota.

* * *

Dr. George N. Aagaard, University director of postgraduate medical education, conducted two three-day courses on Tuberculosis at the Center for Continuation Study in October for "family doctors" and for lay workers. Health education, case-finding surveys, and social and mental problems of the tuberculosis patient were discussed in the course for the lay workers.

* * *

"Cardiac catheterization" was described by Dr. Merrill C. Sosman, clinical professor of radiology at Harvard University, when he presented the annual Leo G. Rigler Lecture at the University of Minnesota on October 28. In his lecture he discussed the various ways in which radiological techniques can aid in the diagnosis of heart diseases.

* * *

Dr. Jack T. Murphy has become associated with Dr. Joseph M. Riga in the practice of internal medicine, with offices at 524 Lowry Medical Arts Building, Saint Paul. Dr. Murphy graduated from Northwestern Medical School in 1941 and served in the army at Oak Ridge. Recently he completed a residency in medicine at the Mayo Foundation.

* * *

During the middle part of October it was announced

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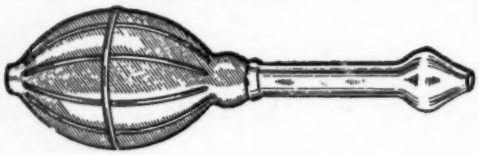

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that Dr. C. W. Parker of Denver, Colorado, would succeed Dr. S. Friefeld in Wadena. Dr. Friefeld plans to move to Duluth shortly before the first of the year to continue his radiology practice at a Duluth hospital. Dr. Parker received his medical degree and his training in radiology at the University of Colorado.

* * *

Approximately 800 persons attended a showing of motion pictures and a lecture by Dr. William P. Gjerde in Lake City on October 11. The color motion picture was taken in the Orient by Dr. Gjerde during his two and one-half years of service in the Army Air Forces. The program was sponsored by the Women's Club of Lake City.

* * *

Dr. Edward J. Engberg, superintendent of the Minnesota State School for the Feeble-Minded at Faribault, has been named president of the Rice County Public Health Association. A member of the board of directors of the state association, Dr. Engberg has been actively interested in tuberculosis control work for many years.

* * *

As a guest speaker at a regional conference of Minnesota welfare workers in Winona on October 11, Dr. C. Anderson Aldrich, Rochester, spoke on the subject, "Orderly and Lawful Behavior." Dr. Aldrich is director of the Rochester Child Health Project. Welfare organization representatives from thirteen counties attended the meeting.

* * *

The Children's Bureau, a unit of the Social Security Administration, has established a clearing house for research in child life to promote collaboration and interchange of information on current research in the various fields affecting child life. A bulletin on current research, which will be available to those interested, will be published in 1949.

* * *

Included in the Minnesota physicians who attended a three-day course in traumatic surgery and orthopedics at the University of Minnesota Center for Continuation Study, October 7 through 9, were Dr. F. G. Chermak, International Falls; Dr. L. Gordon Samuelson, Mankato; Dr. Theodore M. Hansen, Albert Lea; Dr. George W. Drexer, Blue Earth; Dr. N. W. Wagner, Graceville, and Dr. Troy G. Rollins, Elmore.

* * *

One of the speakers at a dinner meeting of the Citizens Committee of Sponsors of the Miller Hospital Building Fund in Saint Paul on November 17 was Dr. Charles W. Mayo, Rochester. The committee is sponsoring a campaign to raise funds for a 132-bed, six-story addition to Miller Hospital. At the dinner meeting the floor plans and the architect's conception of the new addition were shown publicly for the first time.

* * *

An honorary membership in the Minnesota Public Health Conference was awarded to Dr. Charles L. Scofield, pioneer physician in Benson, on October 8. Dr. Scofield, now eighty-three years of age and retired,

practiced medicine in Minnesota for sixty-two years. The award, given to him for distinguished service in the interests of public health, was announced at the annual meeting of the conference in Saint Paul.

* * *

A dinner sponsored by the Ellendale Commercial Club was given on October 6 to honor Dr. Edward Q. Ertel for his forty years of medical practice in the Ellendale community. A graduate of the University of Cincinnati, Dr. Ertel began practice in Ellendale immediately after completing his internship. He has served on the school board, the village council and the county draft board, and at one time was mayor of the community.

* * *

Private enterprise in medicine and hospitalization must be encouraged in Minnesota in order to advance the health of residents of the state, Governor Luther Youngdahl said in a radio address on October 12. "We must guard against the stifling of progress which might result from resort to socialization of medicine," the governor stated. He was introduced on the program by Dr. A. E. Cardle, president of the Minnesota State Medical Association.

* * *

One of the speakers at a seminar on industrial medicine and surgery, held in Minneapolis during the middle of October, was Dr. Hewitt B. Hannah, Minneapolis, who told the 100 assembled industrial physicians to pay attention to the worries as well as the injuries of their accident patients. "Nearly every traumatic injury patient develops deep anxieties about the results of his injuries and what will happen to his family," Dr. Hannah said. These anxieties, he added, can have a serious effect on the treatment given the patient.

* * *

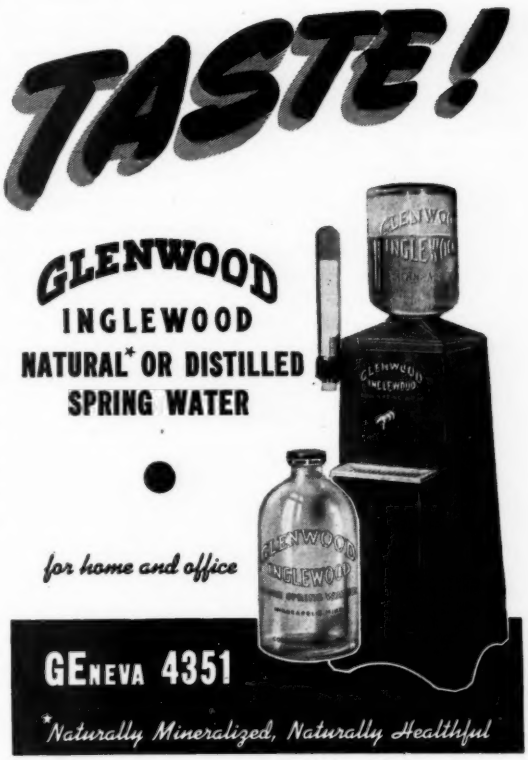
Members of the Minnesota Society of Internal Medicine, meeting in Rochester on October 18, elected Dr. John A. Lepak, Saint Paul, president of the organization. Other officers named were Dr. F. H. K. Schaaf, Minneapolis, vice president, and Dr. A. E. Brown, Rochester, secretary-treasurer. About eighty members of the society attended the biannual meeting, at which fourteen talks on internal medicine were presented. In the evening Dr. Oliver N. Beahrs completely bewildered members and guests with her legerdemain exhibition.

* * *

Announcement was made on October 13 that Dr. Kenneth J. Johnson, formerly of Saint Paul, had joined the staff of the Bemidji Clinic. Dr. Johnson, a graduate of the University of Minnesota Medical School and holder of a master of science degree in bacteriology, served his internship at Wayne County General Hospital, Michigan. After a period of service in the armed forces, he took postgraduate work in internal medicine at the University of Minnesota. During the past summer he completed a medical residency at Wayne County General Hospital.

* * *

The following Minnesota surgeons were received into fellowship in the American College of Surgeons at the convocation during the Clinical Congress in Los Angeles on October 22, 1948: Martin O. Wallace, Duluth; Ann



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* * *

The National Society for Crippled Children and Adults, which includes the various state units, and devotes itself to the education, rehabilitation and employment of all handicapped persons, is supported by the annual sale of Easter Seals. The society announces an annual grant of $5,000 by the college sorority, Alpha Gamma Delta, for the training of a limited number of vocational workers and job-placement technicians specializing in the employment problems of persons disabled by cerebral palsy.

* * *

Dr. Edward J. Richardson has opened offices with Dr. F. E. B. Foley at 228 Lowry Medical Arts Building, Saint Paul, for the practice of urology. A graduate of Johns Hopkins medical school, 1943, Dr. Richardson interned in urology for nine months at Johns Hopkins Hospital, practiced at Pierre, South Dakota, and was assistant resident in urology at the Ancker and Miller Hospitals, Saint Paul, for a few months before serving ninteen months in the Army. From July 1, 1947, to July 1, 1948, he was resident in urology at the Ancker Hospital.

* * *

Dr. N. L. Werner and Dr. S. H. Anderson, both of Red Wing, became associated in practice on November 1, when it was announced that the two of them would jointly conduct the Red Wing Clinic.

Dr. Werner previously practiced in Red Wing from 1908 until 1943, at which time he became resident physician at the state hospital in Hastings. Dr. Anderson has practiced in Red Wing since 1922, much of the time with Dr. A. E. Johnson in the Red Wing Clinic. After the retirement of Dr. Johnson several months ago, Dr. Anderson conducted the clinic alone.

* * *

A report issued during the first week of November from the Cancer Detection Center at the University of Minnesota showed that more than half of the 957 persons examined during the first seven months of the Center's operation were found to require medical attention.

Among the abnormal conditions discovered in 527 persons were the following: 15 definite cases of cancer, 235 precancerous lesions, 131 benign tumors, 49 suspicious tumors, and 270 nontumorous but non-normal conditions.

The 430 persons found to be apparently in good health were advised to return to the Center for re-examination every six months. Of the 957 persons examined, 478 were women and 479 men, all aged forty-five or over.

* * *

Among Minnesota physicians who attended a three-day course in methods of diagnosis and treatment of tuberculosis and other diseases of the chest at the University of Minnesota Center for Continuation Study, October 18 through 20, were Dr. L. Kenneth Onsgard, Houston; Dr. G. A. Miners, Bemidji; Dr. Ralph L. Estrem and Dr. W. O. B. Nelson, Fergus Falls; Dr. F. M. McCarten, Stillwater; Dr. E. C. Burseth, Forest Lake; Dr. Stella L. Wilkinson, Faribault; Dr. Russel R. Hendrickson, Lake Park; Dr. Sidney A. Whitson, Albert Lea, and Dr. B. J. Cronwell and Dr. F. H. Rosenthal, Austin.

* * *

The Rehabilitation Center has been established in Saint Paul, sponsored by the Junior League of Saint Paul, the Minnesota Society for Crippled Children and Adults, with space supplied by the Wilder Charities of Saint Paul at the Wilder Dispensary. Mrs. B. R. Rutherford is in charge. Physicial therapy in the form of heat radiation, massage and hydrotherapy, occupational therapy and speech training are furnished on a part pay and free basis. The Center is a nonprofit organization, and its policies are determined by a medical advisory board composed of seven members of the Ramsey County Medical Society.

* * *

Rochester, though packed with medical personnel, urgently needs more physicians—but the ones needed are general practitioners.

So stated Dr. William F. Braasch, retired Rochester physician, when he came out of retirement in late October to lead a campaign for the construction of a community hospital. Other than the hospitals associated with the Mayo Clinic whose facilities are utilized almost com-

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pletely by the clinic, there isn't a hospital within forty miles of Rochester. Though world-known as a medical center, Rochester is the only community of its size in the United States without a public hospital, Dr. Braasch said.

Partly because of the lack of hospital facilities, there are only three or four general practitioners in all of Olmsted County. "The scarcity of doctors of this type is a detriment to the health of the people of this community," Dr. Braasch stated.

* * *

Two Saint Paul surgeons and three Minneapolis surgeons were admitted to membership in the International College of Surgeons, when the United States chapter of the organization held its thirteenth annual assembly and convocation in St. Louis, Missouri, November 15 through 19.

New members from Saint Paul are Dr. Robert J. Richardson and Dr. Edward V. Davis, while those from Minneapolis are Dr. Earl H. Dunlap, Dr. Alvin J. Kistler and Dr. Lloyd A. Whitesell.

Named as an associate fellow of the group was Dr. Howard A. Vogel of New Ulm. Dr. E. K. Ingebrigtson of Moorhead was elected as an affiliate of the organization.

* * *

Collecting books written by persons suffering from mental or physical illness is the rather unusual semi-hobby of Dr. Walter C. Alvarez of Rochester.

His collection includes books by psychotics, neurasthenics, alcoholics, "dope" addicts, hunchbacks, paralytics, spastics and others. Some of the books were written while the authors' illnesses were just beginning, others after recovery had occurred. Many of the volumes are by well-known journalists and authors who were "going insane" or were addicted to morphine or alcohol.

Dr. Alvarez began his collection in 1907 when he first obtained Charles Beers' "A Mind That Found Itself." Since then, the unusual library has grown steadily, encompassing, for example, a story written by De Maupassant as his mental illness began. A recent addition to the collection is the fairly new book, "The Snake Pit."

"Through reading the books in my collection," Dr. Alvarez said recently, "I have learned to understand better the ways people in these unfortunate situations think, and what they like and do not like in their handling by physicians. Their writings are often amazingly frank."

* * *

HOSPITAL NEWS

Asbury Hospital, Minneapolis, has been approved for a medical residency by the Council on Medical Education and Hospitals of the AMA and by the American Board of Internal Medicine.

* * *

Thirty-two physicians and their wives attended the annual banquet held at St. Vincent's Hospital in Crookston on November 4. Speaking to express the appreciation of the physicians for the banquet were Dr. M. O. Oppegaard and Dr. R. O. Sather, both of Crookston.

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Members of the Freeborn Medical Society, meeting in Albert Lea in September, voted $1,000 toward the Naeve Hospital equipment fund. In addition, they voted to furnish the physicians' room in the new hospital wing. The room will contain a medical library and, later, a motion picture projector for showing medical films.

* * *

At the annual staff meeting at Northwestern Hospital, Minneapolis, in September, Dr. R. S. Ylvisaker was elected president of the attending medical staff. He succeeds Dr. J. C. Miller in the office. Named as vice president was Dr. Edwin G. Benjamin, while Dr. Albert T. Hays was elected secretary-treasurer.

Named as new members of the executive committee were Dr. Lawrence Larson, Dr. Chauncey A. McKinlay, Dr. Samuel B. Solhaug, Dr. Kenneth J. St.Cyr, Dr. Cyrus O. Hansen and Dr. Stanley Lofsness.

* * *

BLUE SHIELD NEWS

Applications received for Blue Shield to October 30, 1948	100,309
Blue Shield cases paid from October 1 to October 30, 1948	726
Total, 1948	2,573
Amount paid on Blue Shield cases from October 1 to October 30, 1948	$ 26,706.19
Total, 1948	95,674.80

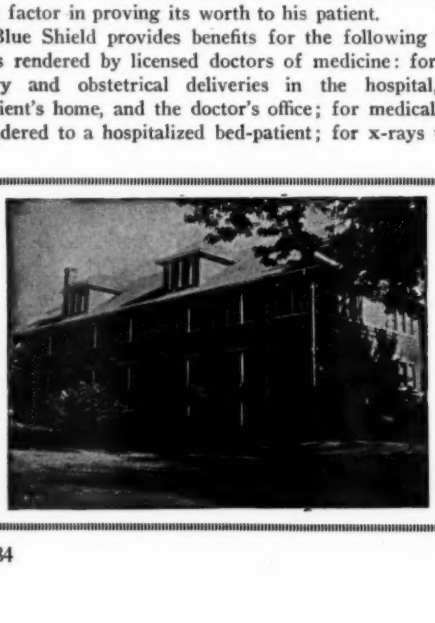
Blue Shield, the voluntary prepaid plan for medical and surgical care, can be an influential factor in counteracting suggested compulsory health insurance. In Minnesota, Blue Shield is comparatively new, but as the above figures show it already is functioning to the benefit of a large number of subscribers. As it continues to expand it will publicize itself. In the meantime Blue Shield needs to be brought to the attention of all residents of this state, and such contact is perpetually under way through the Blue Shield representatives in the field. However, it is believed that the doctors of Minnesota could do a tremendous service to Minnesota Medical Service, Inc., by bringing the advantages of Blue Shield to each patient's attention and emphasizing to the patient that he personally approves the plan. The "family doctor's" sanction of Blue Shield is often the determining factor in proving its worth to his patient.

Blue Shield provides benefits for the following services rendered by licensed doctors of medicine: for surgery and obstetrical deliveries in the hospital, the patient's home, and the doctor's office; for medical care rendered to a hospitalized bed-patient; for x-rays taken at the direction of a doctor of medicne if they are related to the above services; for the services of an anesthesiologist. In each instance the allowance is determined by the actual service rendered and payment made in accordance with the Blue Shield Schedule of Payments.

The advantages of Blue Shield are twofold—not only does it provide for the services of a doctor of medicine during illness, thereby carrying for the Blue Shield contract holder the burden of financial expense, but also it assures the physician of at least partial payment from the Blue Shield office for his services. The plan does not attempt to cover routine or miscellaneous minor services, but rather attempts to provide for serious illness as well as all surgery—in other words, major expenditures.

Through the co-operation of the Red River Valley Medical Society, an extensive campaign publicizing the Blue Shield plan has been under way during October and November during which time the doctor's offices, the hospitals, the farm bureau headquarters, the nurses, druggists, schools and newspapers together with the radio stations in the area have assisted in bringing the plan to the attention of residents of that area. In addition, some time was spent by Blue Shield office personnel in contacting the medical personnel of the doctor's offices and clinic in the area relative to the processing of Blue Shield claims. It is anticipated that similar programs may be carried out in other sections of the state.

November 15, 1948, marks the anniversary of the first Blue Shield contract to become effective in Minnesota. The co-operation of the Blue Shield participating doctors of medicine during this first year of operation has done much to assure its success. However, there remains the tremendous educational job to be done for Minnesota Medical Service Inc.—the doctor's assistance in this task will be of inestimable value. Blue Shield as a voluntary plan appeals to the American public, something which is desired is much more acceptable than something to which we must subscribe—Blue Shield services are ample and the contract cost nominal. It is the doctor's plan for the benefit of his patient. A smoothly and expeditiously functioning voluntary, nonprofit medical, surgical, and obstetrical plan is our most adequate defense against any proposed national plan for compulsory health insurance.



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BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

PATHOLOGY. Edited by W. A. D. Anderson, M.A., M.D., F.A.C.P. Professor of Pathology and Bacteriology, Marquette University School of Medicine, Milwaukee, Wisconsin. 1453 pages. Illus. Price $15.00, cloth. St. Louis: C. V. Mosby Co., 1948.

AN INTRODUCTION TO GASTRO-ENTEROLOGY. Fourth Edition. Walter C. Alvarez, M.D. Professor of Medicine, University of Minnesota, the Mayo Foundation, a Senior Consultant in the Division of Medicine, The Mayo Clinic. 903 pages. Illus. Price $12.50, cloth. New York: Paul B. Hoeber, Inc., 1948.

THE CASE AGAINST SOCIALIZED MEDICINE. A constructive analysis of the attempt to collectivize American medicine. Lawrence Sullivan. 53 pages. Price $1.50, cloth. Washington, D. C.: Statesman Press, 1948.

HEART. A Physiologic and Clinical Study of Cardio-Vascular Diseases. Aldo A. Luisada, M.D. Instructor in Physiology and Pharmacology, Tufts College Medical School Lecturer in Medicine; Lecturer, Postgraduate Division, Tufts College Medical School; Associate in Medicine, Beth Israel Hospital, Boston, Mass.; Former Professor of Medicine, Ferrara, Italy. 653 pages. Illustrated. Baltimore: Williams & Wilkins Company. Price, $10.00.

This textbook represents a great deal of work on the part of its author. Because of our increased knowledge of heart disease and the great amount of literature that has been published in the past ten years, it is difficult to correlate the valuable material and to separate it from the less valuable. The author attempts to do that in his book and has accomplished something in doing so. However, the book is incomplete when one considers it as a text book on heart disease in that there is little space given to the discussion of treatment, although I say this with the knowledge that there is little to be said about treatment in many cases. But treatment is much more appreciated if the philosophical background is presented.

It is an excellent treatise on the anatomy and physiology of heart disease. I would recommend the book for library use only.

JOSEPH M. RYAN, M.D.

OFFICE IMMUNOLOGY; INCLUDING ALLERGY: A GUIDE FOR THE PRACTITIONER. Edited by Marion B. Sulzberger, M.D., Professor of Clinical Dermatology and Syphilology, and Director, New York Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital, and Rudolf L. Baer, M.D., Instructor in Dermatology and Syphilology, New York Skin and Cancer Unit, New York Post-Graduate Medical School and Hospital. 420 pages. Illus. (General Practice Manuals). Chicago: Year Book Publishers, Inc., 1947. Price $6.50.

It is no small treat to review the varied authors' compilation, "Office Immunology." Contained therein is a tremendous amount of concise and useful information dealing, for the most part, adequately with a wide range of immuno-biological procedures. Obviously, in presenting so vast and complex a subject, streamlining has been necessary, but this has not denied the reader the essential details in implementing a given technique.

Allergy, in its many important clinical phases, is lucidly and usefully presented. A substantial segment of this book is devoted to phylactic and prophylactic anti-bacterial and anti-viral measures. In many instances, where specific information or individual experiences have allowed, the authors have attempted to assess the value and/or pitfalls of the subject being considered. Neither has there been forgotten the ever-present difficulty of locating precise sources of immunological material, and whenever possible such sources are indicated. Whether your chosen field is basic or clinical medicine, this book is a "must."

To my knowledge, nowhere in a single handy volume is there to be found such authoritative, selectively condensed information on immuno-biological phenomena as applied to medicine.

S. MACKOFF, M.D.

HANDBOOK ON FRACTURES. Duncan Eve, Jr., M.D., F.A.C.S., Surgeon-in-Chief, Nashville, Chattanooga and St. Louis Railroad; District Surgeon, Louisville and Nashville Railroad; Associate Professor of Surgery, Vanderbilt University School of Medicine; Member of the Southern Surgical Society; Member of The American Association for the Surgery of Trauma; Chairman of the Committee on Fractures of the Medical and Surgical Section of the American Railroad Association; Member of the Committee on Fractures of the American College of Surgeons; Attending Surgeon, St. Thomas Hospital, Nashville, Tennessee, in collaboration with Trimble Sharber, A.B., M.D., Attending Surgeon, St. Thomas Hospital, Nashville, Tennessee. 263 pages. Illustrated. St. Louis: C. V. Mosby Co., 1947. Price $5.00.

This concise and authoritative résumé of fracture treatment will be a welcome handy reference for students and general practitioners. The material is well organized for handy reference.

The illustrations are adequate and clear.

S. W. SHIMONEK, M.D.

FUNDAMENTALS OF CLINICAL NEUROLOGY. H. Houston Merritt, M.D., Professor of Clinical Neurology, College of Physicians and Surgeons, Columbia University; Chief of Division of Neuropsychiatry, The Montefiore Hospital; Fred A. Mettler, M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University; and Tracy Jackson Putnam, M.D., Professor of Neurology and Neurological Surgery, College of Physicians and Surgeons, Columbia University. 289 pages. Illustrated. Philadelphia: The Blakiston Company, 1947. Price, $6.00.

This is an interesting, well written book of less than 300 pages that combines a brief review of neuro-anatomy and physiology with the clinical aspects of neurology. The first portion dealing with examination of the nervous system covers particularly well the cranial nerves. One might wish for more attention to the testing of peripheral nerves, and especially the inclusion of some diagrams of nerve injury.

The remainder of the book deals with anatomic diagnosis. It does this by considering the nervous system segmentally: peripheral nerves, spinal cord, brain stem, et cetera. In each subdivision after covering the anatomy, blood supply, and physiology, there is a brief consideration of diseases and clinical syndromes. In a book this brief there is little space given to details of therapy, but the chief therapeutic agents are mentioned. A valuable chapter is the one on cerebro-spinal fluid giving an extensive listing of cerebro-spinal fluid changes in various diseases.

—D.M.C.

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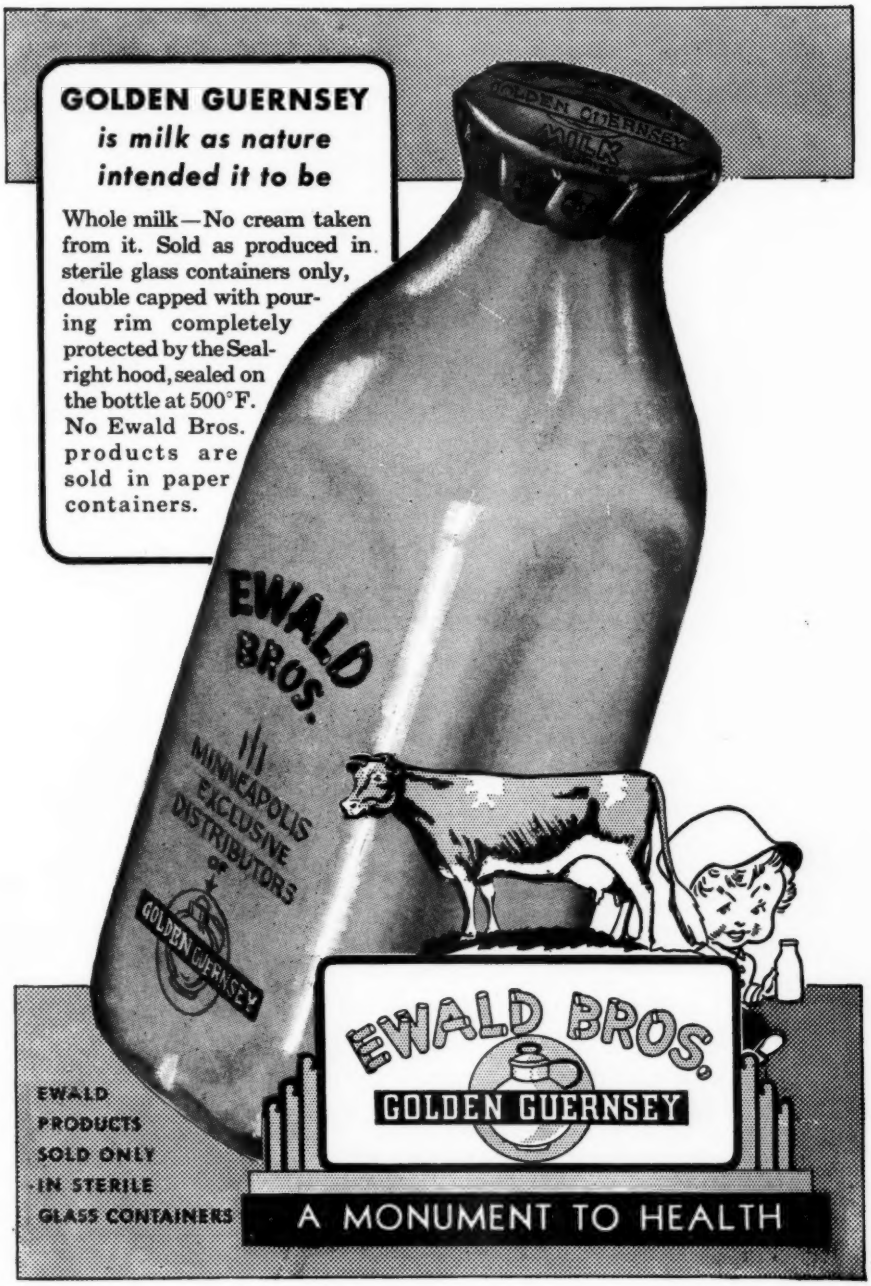
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